EU Ecolabel for detergents and cleaning products

User Manual

European Commission

EU Detergents and cleaning products

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Commission Decision (EU) 2017/1215

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1 Introduction

This manual guides the applicants and the competent bodies through the process of applying for an EU Ecolabel and verifying compliance with the requirements set within the criteria published in:

- Commission Decision (EU) 2017/1218 of 23 June 2017 on establishing EU Ecolabel criteria for laundry detergents.
- Commission Decision (EU) 2017/1219 of 23 June 2017 on establishing EU Ecolabel criteria for industrial and institutional laundry detergents.
- Commission Decision (EU) 2017/1216 of 23 June 2017 on establishing EU Ecolabel criteria for dishwasher detergents.
- Commission Decision (EU) 2017/1215 of 23 June 2017 on establishing EU Ecolabel criteria for industrial and institutional dishwasher detergents.
- Commission Decision (EU) 2017/1217 of 23 June 2017 on establishing EU Ecolabel criteria for hard surface cleaning products.
- Commission Decision (EU) 2017/1214 of 23 June 2017 on establishing EU Ecolabel criteria for hand dishwashing detergents.

While the six product groups mentioned above are covered by six separate Commission Decisions, there are many criteria that are common to all product groups. Taking this into account and also the fact that, in some cases, manufacturers produce several types of products, a single user manual has been produced which covers all six product groups under the name "Detergents and cleaning products".

In this manual, the following acronyms are used:

Table 1. Product categories and their acronym

Product category	Acronym
Laundry Detergents	LD
Industrial and Institutional Laundry Detergents	IILD
Dishwasher Detergents	DD
Industrial and Institutional Dishwasher Detergents	IIDD
Hard Surface Cleaners	HSC
Hand Dishwashing Detergents	HDD

Each product category shall fall under the scope of Regulation (EC) No 648/2004 of the European Parliament and of the Council. In the following table, the scope of each product group is briefly summarised.

Table 2. Scope of each product category

	In the scope	Excluded from the scope
LD	- Laundry detergents and pre-treatment stain removers which are effective at 30ºC or below and are marketed and designed to be used for the washing of textiles principally in household machines, but not excluding its use in public	- Stain removers dosed in the washing machine. - Stain removers dedicated to other uses besides pre-treatment. - Fabric softeners. - Products that are dosed by carriers such as

	laundrettes and common laundries. - Pre-treatment stain removers including stain removers used for direct spot treatment of textiles (before washing in the machine).	sheets, cloths or other materials. - Washing auxiliaries used without subsequent washing such as stain removers for carpets and furniture upholstery.
IILD	- Laundry detergents which are marketed and designed to be used by specialised personnel in industrial and institutional facilities. - Multi-component systems comprised of more than one component used to build up a complete detergent or a laundering programme for an automatic dosing system. Multi-component systems may incorporate a number of products such as fabric softeners, stain removers and rinsing agents, and they shall be tested as a whole.	- Products which induce textile attributes such as water repellency, waterproofness or fire retardancy. - Products that are dosed by carriers such as sheets, cloths or other materials. - Washing auxiliaries used without subsequent washing such as stain removers for carpets and furniture upholstery. - Laundry products to be used in household washing machines in different type of premises.
DD	- Detergents for dishwashers or rinse aids which are marketed and designed to be used exclusively in household dishwashers and in automatic dishwashers for professional use of the same size and usage as that of household dishwashers.	
IIDD	- Dishwasher detergents, rinse or pre-soak agents which are marketed and designed to be used by specialised personnel in professional dishwashers. (Note: pre-soaks used in a separate receptacle outside the dishwasher are also covered by the scope) - Multi-component systems comprised of more than one component used to build up a complete detergent. Multi-component systems may incorporate a number of products such as pre-soak and rinsing agents, and they shall be tested as a whole.	- Dishwasher detergents designed for household dishwashers. - Detergents intended to be used in washers of medical devices or in special machines for the food industry. - Sprays not dosed via automatic pumps. - Products containing fragrances.
HSC	- All-purpose cleaners, kitchen cleaners, window cleaners or sanitary cleaners which are marketed and designed to be used as one of the following: **a)** All-purpose cleaners, which shall include detergent products intended for the routine indoor cleaning of hard surfaces such as walls, floors and other fixed surfaces. **b)** Kitchen cleaners, which shall include detergent products intended for the	- Products which are not mixtures of chemical substances. - Products for non-professional use containing micro-organisms that have been deliberately added by the manufacturer. - Products that do not fall within the scope of the Detergents Regulation (e.g. wipes). - Products which are not aimed at cleaning building indoor spaces (e.g. products aimed at washing cars, boats).

	routine cleaning and degreasing of kitchen surfaces such as countertops, stovetops, kitchen sinks and kitchen appliance surfaces. **c)** Window cleaners, which shall include detergent products intended for the routine cleaning of windows, glass and other highly polished surfaces. **d)** Sanitary cleaners, which shall include detergents products intended for the routine removal, including by scouring, of dirt or deposits in sanitary facilities, such as laundry rooms, toilets, bathrooms and showers. - Products for both private and professional use. - Products sold either in ready-to-use or undiluted form.	- Products which are not used on a routine basis (e.g. strippers) or only for specific surface types (e.g. wooden floor cleaner, metal cleaners) or specific uses (e.g. oven cleaner). - Products which are aimed at cleaning textile surfaces. - Toilet blocks.
HDD	- Detergents which are marketed and designed to be used to wash by hand items such as glassware, crockery and kitchen utensils including cutlery, pots, pans and ovenware. - Products for both private and professional use.	- Products which are not mixtures of chemical substances. - Products for private use containing micro-organisms that have been deliberately added by the manufacturer. - Products for private use containing fragrances.

1.1 Overview on the criteria for "Detergents and cleaning products"

The following table summarizes all criteria and sub-criteria for all product groups, as well as their corresponding numbers in each Commission Decision.

Table 3. List of EU Ecolabel criteria and sub-criteria for detergents and cleaning products

Product category / Criteria	LD	IILD	DD	IIDD	HSC	HDD
	Number of the criteria in the decision text					
Dosage requirements	1	-	1	-	-	-
Toxicity to aquatic organisms	2	1	2	1	1	1
Biodegradability	3	2	3	2	2	2
a. Biodegradability of surfactants	a)	a)	a)	a)	a)	a)
b. Biodegradability of organic compounds	b)	b)	b)	b)	b)	b)
Sustainable sourcing of palm oil, palm kernel oil and their derivatives	4	3	4	3	3	3
Excluded and restricted substances	5	4	5	4	4	4
a. Specified excluded and restricted substances	a)	a)	a)	a)	a)	a)
b. Hazardous substances	b)	b)	b)	b)	b)	b)
c. Substances of very high concern (SVFCs)	c)	c)	c)	c)	c)	c)
d. Fragrances	d)	d)	d)	d)	d)	d)
e. Preservatives	e)	e)	e)	e)	e)	e)
f. Colouring agents	f)	f)	f)	f)	f)	f)

g. Enzymes h. Micro-organisms i. Corrosive properties	g) - -	g) - -	g) - -	g) - -	g) h) -	g) - h)
Packaging a. Products sold in spray bottles b. Packaging take-back systems c. Weight/utility ratio (WUR) d. Design for recycling	6 - - a) b)	5 - a) b) c)	6 - - a) b)	5 - a) b) c)	5 a) b) c) d)	5 - - a) b)
Fitness for use	7	6	7	6	6	6
Automatic dosing system	-	7	-	7	-	-
User information a. Dosing instructions b. Packaging disposal information c. Environmental information	8 a) b) c)	8 a) b) c)	8 a) b) c)	8 a) b) c)	7 a) b) c)	7 a) b) c)
Information appearing on the EU Ecolabel	9	9	9	9	8	8

For every criterion specific assessment and verification of compliance is set out in each respective Commission Decision. With the aim of facilitating the application procedure, this User Manual gives the applicant and the competent bodies (verifiers) additional information to provide the necessary documentation, declarations, analyses, test reports, and/or any other evidence, which may originate from the applicant or its supplier(s), as appropriate.

The applicant shall take into account that, as a prerequisite, the product shall meet all applicable legal requirements of the country or countries in which the product is intended to be placed on the market. The applicant shall declare the product's compliance with this requirement.

In case of any change that could potentially affect a product's compliance with one or more criteria, the license-holder shall, in advance of this change, submit the information to the competent body demonstrating that the product will still meet the affected criterion/a after the change.

Where appropriate, test methods other than those indicated in the criterion text may be used if they are considered as equivalent by the competent body. The applicant shall confirm the equivalency of any alternative test method used prior to the submission of the application.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications or site visits.

This document is not aimed to duplicate the entire content of the criteria but is intended to support their interpretation, and only focused on helpful explanations and clarifications. The criterion text appears only when additional information, clarifications and explanations are included; if not, only the criteria name appears as a heading. The following symbols are used throughout this Manual:

Table 4. Description of the symbols and criteria parts used throughout the document

Symbol	Description
	Criterion text. Whenever a criterion appears in two or more Commission Decisions, the text appearing in the box has been unified. Please note that the text included in these boxes has no legal value. Please refer to the texts published in the latest legal version of the corresponding Commission Decision(s).
ⓘ	Key points for each criterion are listed under this symbol.
	Boxes with definitions or additional explanations of technical terms that could complement the definitions already included in article 2 of the Commission Decisions.

⚠	Notable or important information.
🖱	Website where further information can be found.

This User Manual includes the following elements as Annexes:

Annex I: Application form – This part includes the application forms or templates to be completed by the applicant.

Annex II: Declarations – This part includes the declarations or templates to be completed as part of the application process. For each product category, two declaration templates are included:

- *Declaration A from the manufacturer of the detergents or cleaning products*. The applicant shall complete and submit a Declaration A for each product that applies for EU Ecolabel.
- *Declaration B from the manufacturer/supplier of each raw material*. The applicant shall submit a Declaration B by each raw material existing in the product that applies for EU Ecolabel, or by each raw material/s supplier. Each Declaration B can be completed by the applicant (if he/she has the required information) or by the raw material supplier.

Annex III: Checklist – This part includes a checklist by each product category, listing/gathering all the documentary evidences needed to demonstrate compliance with each criterion. It serves to support the applicant in the data compilation.

Annex IV Derogation form

Calculation sheets – To support the calculation procedures required in some of the criteria.

⚠ **Please read this manual all the way through before completing and submitting the application forms, declarations and any other documentation.**

2 The role of the third-party testing

As defined in the EN ISO 17025 standard, a third-party testing laboratory should demonstrate that it is impartial and that both the laboratory itself and its personnel are free from any undue commercial, financial and other pressures which might influence their technical judgement. Procedures have to be implemented to ensure that external persons or organisations to the testing laboratory cannot influence the results of tests carried out.

Keeping this in mind, a third-party testing laboratory shall be independent to the extent that is required with regard to the conditions under which they perform their services. It means that a third-party testing laboratory and their staff responsible for carrying out the tests shall not be the designer, manufacturer, supplier, installer, purchaser, owner, user or maintainer of the detergents and cleaner products which they test, nor the authorised representative or a subsidiary of any of these parties.

A third-party testing laboratory and their staff shall not engage in any activities that may conflict with their independence, judgement capability and integrity in relation to their testing activities. In particular, they shall not become involved in the design, manufacture, supply, installation, use or maintenance of the items tested, or similar competitive items.

Testing by a third-party independent laboratory is a common practice in many sectors and required by several product certification schemes (product marking). Sometimes, it is a mandatory legislative requirement.

The responsibility of the third-party testing laboratory must be limited to the responsibility for correct test results and its decisions or recommendations made thereupon. The testing laboratory should not take any responsibility for the product, material, item, or services being tested since that responsibility belongs solely and unlimited to the manufacturer.

Competent Bodies shall preferentially recognise tests which are conducted by laboratory or testing bodies that fulfil the requirements shown below.

Table 5. Ranking of preference to recognise test and testing bodies

No	Description
1	Laboratory tests shall be performed by laboratories that are accredited for the specified test method according to ISO 17025 or GLP[1], where possible. List of accredited laboratories per country is available at http://european-accreditation.org/ The Competent Bodies accept accredited laboratories in all Member States in the EU/EEA and in countries that have signed the mutual recognition agreement according to ILAC, the international accreditation organisation. If in the Member State where the applicant submits its dossier or where the company or the concerned production plant or service is based, one or more laboratories are accredited according to ISO 17025 or GLP, applicants shall use such a laboratory, either in that Member State or another.
2	Laboratories with an accreditation for other tests than those required by the criteria can be accepted if they submit a declaration that the tests are done following the same quality management procedures as the tests for which they obtained an accreditation. In case of doubt, the competent body or national board shall inspect the lab that carries out the tests or shall select an accredited auditor who will be charged to do so.
3	If neither point 1 or 2 is possible, applicants should call on a non-accredited independent laboratory certified or approved by a Government Department or other public body in a Member State. In case of doubt, the Competent Body or national board shall inspect the lab that carries out the tests or shall select an accredited auditor who will be charged to do so.
4	If none of points 1 - 3 are possible, applicants may have the tests performed by an independent laboratory that is neither accredited nor approved by authorities according to point 3. Laboratories with a quality management system shall be preferred. A laboratory situated in an organisation holding an ISO 9001- certificate, may be accepted if the scope of the certification includes the laboratory. The Competent Body or national board shall verify the competence of the laboratory that carries out the tests or shall select an accredited auditor who will be charged to do so.
5	If none of the above mentioned points can be fulfilled, the applicant may have the tests carried out in a company laboratory (that is not accredited ISO 17025 or GLP, as this would be covered by point 1). The Competent Body or national board shall ensure that the tests are properly carried out or shall select an accredited auditor who will be charged to do so. In this case, the laboratory shall have a quality management system. A laboratory within an organisation holding an ISO 9001- certificate is accepted as being under appropriate quality management, if the scope of the certification includes the laboratory. This option may also be used for continuous monitoring of the production, including discharges and emissions, and for testing fitness for use when no standard test method exists.

[1] GOOD LABORATORY PRACTICE (GLP) available at: http://www.oecd.org/chemicalsafety/testing/goodlaboratorypracticeglp.htm

3 Supporting the Product Assessment and Verification

3.1 General requirements

3.1.1 Ingoing substances

The term "ingoing substances" covers all the substances intentionally added, by-products and impurities from raw materials in the final product formulation (including water-soluble foil, if used). The "Detergent Ingredient Database" list (DID list), available on the EU Ecolabel website, contains the most widely used ingoing substances in detergents and cosmetics formulations.

http://ec.europa.eu/environment/ecolabel/products-groups-and-criteria.html

The DID list is regularly updated, the applicant shall ensure that they use the most recent version of the DID list available on the EU Ecolabel website.

The applicant must provide the competent body with a list of all ingoing substances present in the final product formulation (including water-soluble foil, if used) in the concentrations listed below:

- Preservatives, fragrances and colouring agents shall be indicated regardless of concentration (i.e. there is no minimum concentration – if a preservative, fragrance or colouring agent is used in the formulation, the applicant shall disclose its presence),
- Other ingoing substances shall be indicated if they are present at or above the concentration of 0,010% weight by weight (see **Table 6**).

The list of ingoing substances shall include the following information:

- the trade name (if existing),
- the chemical name (IUPAC or INCI),
- the CAS no.,
- the DID no.,
- the ingoing quantity,
- the function and the form present in the final product formulation (including water-soluble foil, if used).

All ingoing substances present in the form of nanomaterials shall be clearly indicated with the word "nano" written in brackets, even if they are not listed on the label of the product.

For each ingoing substance listed, the latest available Safety Data Sheets (SDS) in accordance with Regulation (EC) No 1907/2006 of the European Parliament and of the Council[2] shall be provided. Where an SDS is not available for a single substance because it is part of a mixture, the applicant shall provide the SDS of the mixture.

[2] Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (OJ L 396, 30.12.2006, p. 1).

The SDS used and provided by the applicant and its suppliers shall comply with the latest update of the Regulation (EC) No 1907/2006 (REACH Regulation).

http://ec.europa.eu/environment/chemicals/reach/legislation_en.htm

3.1.2 Measurement thresholds

Compliance with the ecological criteria is required for all ingoing substances that are present above the limits specified in Table 6.

Table 6. Threshold levels applicable to ingoing substances by criterion (% weight by weight)

Criterion name		Surfactants	Preservatives	Colouring agents	Fragrances**	Other (e.g. enzymes)
Toxicity to aquatic organisms		≥ 0,010	no limit*	no limit*	no limit*	≥ 0,010
Biodegradability	Surfactants	≥ 0,010	N/A	N/A	N/A	N/A
	Organics	≥ 0,010	no limit*	no limit*	no limit*	≥ 0,010
Sustainable sourcing of palm oil		≥ 0,010	N/A	N/A	N/A	≥ 0,010
Excluded or limited substances	Specified excluded and limited subst.	no limit*	no limit*	no limit*	no limit*	no limit*
	Hazardous subst.	≥ 0,010	≥ 0,010	≥ 0,010	≥ 0,010	≥ 0,010
	SVHCs	no limit*	no limit*	no limit*	no limit*	no limit*
	Fragrances	N/A	N/A	N/A	no limit*	N/A
	Preservatives	N/A	no limit*	N/A	N/A	N/A
	Colouring agents	N/A	N/A	no limit*	N/A	N/A
	Enzymes	N/A	N/A	N/A	N/A	no limit*
	Micro-organisms***	N/A	N/A	N/A	N/A	≥ 0,010

* "no limit" means: all substances intentionally added, by-products and impurities from raw materials (analytical limit of detection) regardless of the concentration.
** Not applicable for IIDD, since they are not allowed to contain fragrances.
***Only applicable for HSC.
N/A: not applicable

3.1.3 HSC specificities

Undiluted HSC products may fall under the provisions listed below

If a product can be found both in RTU and undiluted form and both forms are sold as part of a single lot (e.g. one bottle of RTU product and refill bottle of undiluted product), both types of products shall meet the requirements set out in all the criteria for their respective types.

Undiluted products in packaging designed for the sole purpose of refilling trigger sprays shall meet the packaging requirements for RTU products.

3.2 Reference dosage

From this point on and for all the criteria (except for fitness for use criterion), all product doses used for verification purposes are understood to be the reference dosage defined in each Commission Decision and summarised below.

Table 7. Reference dosage of each product category

Product category		Reference dosage
LD	Heavy-duty detergent, Colour safe detergent	Dosage recommended by the manufacturer for one kilogram of normally soiled dry laundry (indicated in g/kg of laundry or ml/kg of laundry) calculated on the basis of the dosage recommended for a load of 4,5 kg at a water hardness of 2,5 mmol $CaCO_3$/l.
	Light-duty detergent	Dosage recommended by the manufacturer for one kilogram of normally soiled delicate laundry (indicated in g/kg of laundry or ml/kg of laundry) calculated on the basis of the dosage recommended for a load of 2,5 kg at a water hardness of 2,5 mmol $CaCO_3$/l.
	Stain remover (pre-treatment only)	Dosage recommended by the manufacturer for one kilogram of dry laundry (indicated in g/kg of laundry or ml/kg of laundry) calculated on the basis of 6 applications for a load of 4,5 kg.
IILD	Soiling: light (Examples: Hotels: bed linen, bedclothes and towels, etc. (towels may be considered heavily soiled); cloth hand towel rolls)	The highest dosage recommended by the manufacturer to wash one kilogram of dry laundry (indicated in g/kg of laundry or ml/kg of laundry) for three degrees of soiling (light, medium and heavy) and water hardness (soft, medium, hard). All products in a multi-component system shall be included with the worst case dosage when assessments of the criteria are made.
	Soiling: medium (Examples: Work clothes: institutions/ retail/ service, etc.; restaurants: tablecloths, napkins, etc.; mops and mats)	
	Soiling: heavy (Examples: Work clothes: industry/ kitchen/butchering, etc.; kitchen textiles: clothes, dish towels, etc.; institutions such as hospitals: bed linen, bedclothes, contour sheets, patient clothing, doctor's coat or scrubs/overall, etc.)	
DD	Dishwasher detergent	Highest dosage recommended by the manufacturer to wash 12 normally soiled place settings under standard conditions ('wash'), as laid down in EN 50242 (indicated in g/wash or ml/wash)
	Rinse aid	3 ml/wash
IIDD	Dishwasher detergent	The highest dosage recommended by the manufacturer to produce 1 litre of washing solution (indicated in g/l of washing solution or ml/l of washing solution) for three degrees of water hardness (soft, medium, hard).
HSC	Ready-to-use (RTU) products	1 litre of RTU product
	Undiluted products	Highest dosage recommended by the manufacturer for preparing 1 litre of cleaning solution for cleaning normally soiled surfaces (indicated in g/l of cleaning solution or ml/l of cleaning solution)
HDD	Hand dishwashing detergents	The highest dosage recommended by the manufacturer for 1 litre of washing water for cleaning normally soiled dishes (indicated in g/l of washing water or ml/l of washing water).

The applicant shall provide the product label or user instruction sheet that includes the dosing instructions or the recommended dosage.

3.3 Criteria

3.3.1 Criterion: Dosage requirements

This criterion applies only to LD and DD product categories.

Unified criterion text and values from the different Commission Decisions:

The reference dosage shall not exceed the following amounts:

Table 8. Limits of the reference dosage

Product type		Dosage
LD (g/kg of laundry)	Heavy-duty detergent, colour-safe detergent	16,0
	Light-duty detergent	16,0
	Stain remover (pre-treatment only)	2,7
DD (g/wash)	Single-function dishwasher detergent	19,0
	Multi-function dishwasher detergent	21,0

Assessment and verification:

The applicant shall provide the product label that includes the dosing instructions and documentation showing the density (g/ml) of liquid and gel products.

Rinse aids (for DD category) are exempted from this requirement.

Key points

- *Which documents to provide to prove that the reference dosage of the product fulfils this requirement?* Section 3.3.1.1

3.3.1.1 Guidance on the documents to provide to prove that the reference dosage of the product fulfils this requirement

This criterion is verified through the same documentation as the reference dosage (copy of the product label where its dosage is indicated (dosing instructions)). In the special case of liquid or gel products, the applicant shall also provide to the Competent Body documentation in which the density in g/ml of the product is indicated, for example the safety data sheets for products. This is necessary as the limits are indicated in grams and the dosing instructions for liquid or gel products are usually in milliliters – the calculation method to apply is:

$$Reference\ dosage\ in\ g = Reference\ dosage\ in\ ml\ \cdot density\ in\ g/ml$$

Using the Excel calculation sheets the calculation will be done automatically if all necessary values are entered.

3.3.2 Criterion: Toxicity to aquatic organisms

This criterion applies to all product categories included in this manual.

Unified criterion text and values from the different Commission Decisions:

The critical dilution volume ($CDV_{chronic}$) of the product shall not exceed the following limits for the reference dosage:

Table 9. CDV limit by product category (I)

Product type		Limit CDV
LD (l/kg of laundry)	Heavy-duty detergent, colour-safe detergent	31 500
	Light-duty detergent	20 000
	Stain remover (pre-treatment only)	3 500
DD (l/wash)	Single-function dishwasher detergents	22 500
	Multi-function dishwasher detergents	27 000
	Rinse aid	7 500
HSC (l/l of cleaning solution)	All-purpose cleaners, RTU	350 000
	All-purpose cleaners, undiluted	18 000
	Kitchen cleaners, RTU	600 000
	Kitchen cleaners, undiluted	45 000
	Window cleaners, RU	48 000
	Window cleaners, undiluted	18 000
	Sanitary cleaners, RTU	600 000
	Sanitary cleaners, undiluted	45 000
HDD (l/l of washing water)	Hand dishwashing detergents	2 500

Table 10. CDV limit by product category (II)

Water hardness / Product type				Soft (<1,5 mmol $CaCO_3$/l)	Medium (1,5 – 2,5 mmol $CaCO_3$/l)	Hard (>2,5 mmol $CaCO_3$/l)
IILD (l/kg of laundry)	Powder	Degree of soiling	Light	30 000	40 000	50 000
			Medium	40 000	60 000	80 000
			Heavy	50 000	75 000	90 000
	Liquid		Light	50 000	60 000	70 000
			Medium	60 000	75 000	90 000
			Heavy	75 000	90 000	120 000
	Multi-component-system		Light	50 000	70 000	90 000
			Medium	60 000	80 000	100 000
			Heavy	75 000	100 000	120 000
IIDD (l/l of washing solution)	Pre-soaks			2 000	2 000	2 000
	Dishwasher detergents			3 000	5 000	7 000
	Multi-component systems			3 000	4 000	5 000
	Rinse aids			3 000	3 000	3 000

Assessment and verification:
The applicant shall provide the calculation of the $CDV_{chronic}$ of the product. A spreadsheet for calculating the $CDV_{chronic}$ value is available on the EU Ecolabel website.
The $CDV_{chronic}$ is calculated for all ingoing substances (*i*) in the product (**except micro-organisms in the case of HSC**), using the following equation:

$$CDV_{chronic} = \sum CDV_{(i)} = 1000 \cdot \sum dosage\ (i) \cdot \frac{DF\ (i)}{TF_{chronic}(i)}$$

Where:
dosage(*i*): weight (g) of the substance (*i*) in the reference dose;
DF(*i*): degradation factor for the substance (*i*);
$TF_{chronic}(i)$: chronic toxicity factor for the substance (*i*).
The values of DF(*i*) and $TF_{chronic}(i)$ shall be as given in the most updated Part A of the DID list. If an ingoing substance is not included in the Part A, the applicant shall estimate the values following the approach described in the Part B of that list and attaching the associated documentation.

In the case of IILD, because of the degradation of certain substances in the wash process, separate rules apply to the following:
- Hydrogen peroxide (H2O2) – not to be included in the calculation of CDV;
- Peracetic acid – to be included in the calculation as "acetic acid".

This criterion shall apply to: preservatives, colouring agents and fragrances regardless of their concentration, and any other ingoing substance if its concentration is equal to or higher than 0,010% weight by weight (except microorganisms in the case of HSC).

Key points

- *How to calculate the $CDV_{chronic}$ of a product?* Example in Section 3.3.2.1
- *How to proceed when an ingoing substance is not present in Part A of the DID list?* Example in Section 3.3.2.2

Definitions

- ***$CDV_{chronic}$*** estimates the impact of a product on aquatic freshwater ecosystems through the calculation of the volume of natural water required to dilute a quantity of the product (or functional unit) down to a concentration without any foreseeable harmful impact on aquatic species.
- ***Degradation factor*** is an estimation of the degradation rate of a substance in the aquatic environment. It results from tests assessing aerobic biodegradability (Test methods 301 A to F or 310 in the OECD Guidelines for the Testing of Chemicals).
- ***Chronic toxicity factor ($TF_{chronic}$)*** calculates the median value within each tropic level (fish, crustaceans or algae) using validated test results (NOEC or EC_{10}) for chronic toxicity. It is the lowest median (NOEC or EC_{10}) of the trophic levels divided by the safety factor (SF), which depends on how many trophic levels are tested and whether chronic test results are available or not.

3.3.2.1 Guidance to calculate the $CDV_{chronic}$ of a product.

The $CDV_{chronic}$ results from the sum of the calculation of the CDV of all the ingoing substances of the product according the following equation:

$$CDV_{chronic} = \sum CDV_{(i)} = 1000 \cdot \sum dosage\ (i) \cdot \frac{DF\ (i)}{TF_{chronic}(i)}$$

The data needed to carry out the calculation are the DF and the $TF_{chronic}$ for each substance, which can be found in the Part A of the DID list or, if not present there, calculated using the instructions provided in Part B of the DID list (see Section 3.3.2.2 for more information).

The DF and $TF_{chronic}$ values shall be obtained from the most updated Part A version of the DID list, as available on the EU Ecolabel website.

To facilitate this calculation, a spreadsheet can be found in the EU Ecolabel website, where the applicant can introduce the DID number, the reference dosage of the product and the % of each ingoing substance, and the results of the $CDV_{chronic}$ are generated automatically.

EU Ecolabel website: http://ec.europa.eu/environment/ecolabel/products-groups-and-criteria.html

Exceptions for CDV calculations:

- **IILD: hydrogen peroxide shall not be included in the calculation of $CDV_{chronic}$.**
- **IILD: peracetic acid shall be included in the calculation of $CDV_{chronic}$ as "acetic acid".**
- **HSC: microorganisms are exempted from the calculation of the $CDV_{chronic}$.**

In order to explain better the calculation of the CDV, an example is provided below. The numerical values expressed herein are not representative of any specific product and may greatly differ from real-life products.

Example. Liquid heavy-duty laundry detergent (LD) with a reference dosage of 14 g/kg of laundry.

To calculate the $CDV_{chronic}$ of the product, the following equation shall be used:

$$CDV_{chronic} = \sum CDV_{(i)} = 1000 \cdot \sum dosage\ (i) \cdot \frac{DF\ (i)}{TF_{chronic}(i)}$$

The following table compiles all ingoing substances of this detergent, including all data necessary for the calculation of the $CDV_{chronic}$ and the obtained results. The final value of the $CDV_{chronic}$ is the sum of all CDV of the ingoing substances (green cell).
In this case, all the ingoing substances could be found in the Part A of the DID list.

DID-no	Ingredient name	TF (Chronic)	DF	Dosage*	CDV (l/kg of laundry)
2133	C12-18 Alkyl glycerol ester 7EO	0,125	0,05	0,7	$CDV = 1000 * 0{,}7 * \frac{0{,}05}{0{,}125} =$ 280

2136	C14 Alkyl polyglycoside	0,175	0,05	0,7	$CDV = 1000 * 0{,}7 * \frac{0{,}05}{0{,}175} =$ 200
2009	Sodium laureth sulfate	0,014	0,05	0,7	$CDV = 1000 * 0{,}7 * \frac{0{,}05}{0{,}014} =$ 2500
2503	Glycerol	0,177	0,05	0,28	$CDV = 1000 * 0{,}28 * \frac{0{,}05}{0{,}177} =$ 197,74
2025	Soap C>12-22	0,1	0,05	0,7	$CDV = 1000 * 0{,}7 * \frac{0{,}05}{0{,}1} =$ 79,10
2506	Sodium citrate	1,6	0.05	0,42	$CDV = 1000 * 0{,}42 * \frac{0{,}05}{1{,}6} =$ 13,12
2529	Ethanol	1	0,05	0,14	$CDV = 1000 * 0{,}14 * \frac{0{,}05}{1} =$ 7
2542	Sodium hydroxide	10	0,05	0,098	$CDV = 1000 * 0{,}098 * \frac{0{,}05}{10} =$ 0,49
2419	Phenoxy-ethanol	0,943	0,05	0,07	$CDV = 1000 * 0{,}07 * \frac{0{,}05}{0{,}943} =$ 3,71
2549	Perfume	0,002	0,5	0,042	$CDV = 1000 * 0{,}042 * \frac{0{,}5}{0{,}002} =$ 10500
2546	Protease	0,00012	0,01	0,0014	$CDV = 1000 * 0{,}0014 * \frac{0{,}01}{0{,}00012} =$ 116,67
2547	Cellulase	0,018	0,01	0,0007	$CDV = 1000 * 0{,}0007 * \frac{0{,}01}{0{,}018} =$ 0,39
					CDV chronic = ∑CDV(i) = 13898,22

*Dosage: is the amount of ingoing substance contained in the reference dosage; in this case the reference dosage (including water) is 14 g/kg of laundry.

The limit for heavy-duty laundry detergents (LD) is 31500 l/kg of laundry. Therefore, this liquid detergent is below the threshold and successfully passes the criterion of Toxicity to aquatic organisms.

3.3.2.2 Guidance to proceed when an ingoing substance is not listed in Part A of the DID list

If an ingoing substance is not included in Part A of the DID list, the applicant shall estimate the values following the approach described in the Part B of DID list (available on the EU Ecolabel website).

EU Ecolabel website: http://ec.europa.eu/environment/ecolabel/products-groups-and-criteria.html

According to the Part B of the DID list, for calculating the CDV of an in-going substance that is not included in the DID list, the applicant shall calculate the chronic toxicity and degradation factor.

Calculation results should be supported by documentation explaining data used. This can include e.g. test reports or literature references (if literature data is used), or results of reliable tests available in the ECHA database.

If an inorganic substance has a very low water-solubility or is not soluble in water, this must be indicated in the submitted file.

Aquatic toxicity tests shall be in accordance with REACH Regulation (EC) No 1907/2006. Acute toxicity would normally be determined using a fish 96 hour LC_{50} (OECD Test Guideline 203 or equivalent), a crustacean species 48 hour EC_{50} (OECD Test Guideline 202 or equivalent) and/or an algal species 72 or 96 hour EC_{50} (OECD Test Guideline 201 or equivalent). These species are considered as surrogate for all aquatic organisms and data on other species may also be considered if the test methodology is suitable. Chronic testing involves an exposure that covers a significant period of time when compared to the organism's life cycle. Data could be generated according to the OECD Test Guidelines 210 (Fish Early Life Stage), OECD Test Guidelines 202 Part 2 or 211 (Daphnia Reproduction) and/or OECD Test Guidelines 201 (Algal Growth Inhibition) or equivalent. The NOECs or EC_{10} should be used.

Chronic toxicity:

If no chronic test results are available, the acute toxicity factor may be used instead of the chronic toxicity factor.

For obtaining the chronic toxicity factor ($TF_{chronic}$) or the acute toxicity factor (TF_{acute}), the median value within each trophic level (fish, crustaceans or algae) shall be calculated using validated test results:

- NOEC or EC_{10} for chronic toxicity or
- LC_{50} and/or EC_{50} for acute toxicity

If several test results are available for one species within a trophic level, a median for the species shall be calculated first, and these median values shall be used when calculating the median value for the trophic level.

If the median value for a trophic level exceeds the water solubility, the value must be set to 100 mg/L

$TF_{chronic}$ and TF_{acute} are the lowest median (NOEC or EC_{10} for chronic and LC_{50} or EC_{50} for acute) of the trophic levels divided by the safety factor (SF).

$$TF_{chronic} = \frac{lowest\ median\ (NOEC\ or\ EC_{10}) of\ the\ trophic\ levels}{SF}$$

$$TF_{acute} = \frac{lowest\ median\ (LC50\ or\ EC_{50}) of\ the\ trophic\ levels}{SF}$$

Safety factor:

The SF depends on how many trophic levels are tested and whether chronic test results are available or not. SF is determined as follows:

Table 11. Safety factors

Data	SF	TF
One short-term L(E)C_{50}	10000	$\frac{Toxicity}{10000}$
Two short-term L(E)C_{50} from species representing two trophic levels (fish and/or crustaceans and/or algae)	5000	$\frac{Toxicity}{5000}$
At least one short-term L(E)C_{50} from each of three trophic levels of the base-set*	1000	$\frac{Toxicity}{1000}$
One long-term NOEC or EC_{10} (fish or crustaceans)	100	$\frac{Toxicity}{100}$
Two long-term NOEC or EC_{10} from species representing two trophic levels (fish and/or crustaceans and/or algae)	50	$\frac{Toxicity}{50}$
Long-term NOEC or EC_{10} from at least three species (normally fish, crustaceans and algae) representing three trophic levels	10	$\frac{Toxicity}{10}$

*the base-set for testing the toxicity of substances towards aquatic organisms consists of acute tests with fish, daphnia and algae.

Degradation factor:

The degradation factor (DF) depends on the aerobic biodegradability of the substance, therefore the substance must be classified into one of the following classes of compounds:

Table 12. Degradation factors

Category	DF
Readily biodegradable (all surfactants or other substances consisting of a series of homologues and fulfilling the final degradation requirement of the test, shall be included in this class regardless of fulfilment of the 10-day window criterion)	0,05
Readily biodegradable (10-day window criterion not fulfilled)	0,15
Inherently biodegradable	0,5
Persistent	1

For inorganic substances, the DF is 0,05 for nutrients such as sodium nitrate, phosphate or ammonia. DF is 1 for other inorganic substances, such as zeolite, silicates, perborates, sulphamic acid.

Calculation example:

In order to clarify the calculation of TF and DF, an example is provided below. The numerical values listed are not representative of any specific product and can greatly differ from real-life products.

Example 1. Surfactant not present in the DID list, being readily biodegradable, with two acute test results available within the same trophic level (both for crustaceans): LC_{50} = 300 mg/L and LC_{50} = 600 mg/L. The concentration of the surfactant is 7% and the reference dosage of the product is 14 g/kg of laundry.

In this case no test results are available to calculate the chronic toxicity, therefore acute toxicity is used. The toxicity test is a short-term LC_{50}, therefore the SF is 10000 (Table 11).

LC_{50}=300 mg/L and LC_{50}=600 mg/L → the median is needed for calculating the TF; then:

$$Median = \frac{300 + 600}{2} = 450\ mg/L$$

$$TF_{acute} = \frac{450}{10000} = 0{,}045\ mg/L$$

This surfactant is readily biodegradable, therefore the DF is 0,05 (Table 12).

Then, the calculation of the CDV is:

$$CDV\ (i) = dosage\ (i) \cdot 1000 \cdot \frac{DF\ (i)}{TF_{acute}(i)} = dosage \cdot 1000 \cdot \frac{0{,}05}{0{,}045}$$

The dosage is the amount of the surfactant contained in the reference dosage of the product. Then:

$$CDV\ (i) = dosage\ (i) \cdot 1000 \cdot \frac{DF\ (i)}{TF_{acute}(i)} = \frac{7}{100} \cdot 14 \cdot 1000 \cdot \frac{0{,}05}{0{,}045} = 1088{,}88\ l/kg\ of\ laundry$$

Example 2. *Ingredient X* (different that surfactant) not present in the DID list, with two acute test results available within two trophic levels (crustaceans and algae): LC_{50} = 200 mg/L and EC_{50} = 400 mg/L, respectively. The *ingredient X* is readily biodegradable in a 28-day test but the 10-day window criterion is not fulfilled. The concentration of the *ingredient X* is 7% and the reference dosage of the product is 14 g/kg of laundry.

In this case no test results are available to calculate the chronic toxicity, therefore acute toxicity is used. There are two short-term L(E)C_{50} toxicity tests from two trophic levels; therefore the SF is 5000 (Table 11).

LC_{50}=200 mg/L and LC_{50}=400 mg/L → the lowest median is needed for calculating the TF; then:

$$TF_{acute} = \frac{200}{5000} = 0{,}04\ mg/L$$

This ***ingredient X*** is readily biodegradable, therefore the DF is 0,05 (Table 12). (**Note that the exemption from the 10-day window criterion can only be applied if the ingredient is a**

surfactant or other substances consisting of a series of homologues)

Then, the calculation of the CDV is:

$$CDV\ (i) = dosage\ (i) \cdot 1000 \cdot \frac{DF\ (i)}{TF_{acute}(i)} = dosage \cdot 1000 \cdot \frac{0{,}15}{0{,}04}$$

The dosage is the amount of the ***ingredient X*** contained in the reference dosage of the product. Then:

$$CDV\ (i) = dosage\ (i) \cdot 1000 \cdot \frac{DF\ (i)}{TF_{acute}(i)} = \frac{7}{100} \cdot 14 \cdot 1000 \cdot \frac{0{,}15}{0{,}04} = 3675\ l/kg\ of\ laundry$$

In the case of CDV calculation for IILD products only, H_2O_2 should be handled like "water" (i.e. not to be included).

3.3.3 Criterion: Biodegradability

This criterion applies to all product categories of this manual.

Unified criterion text and values from the different Commission Decisions:

a. Biodegradability of surfactants

All surfactants shall be readily degradable (aerobically).
All surfactants classified as hazardous to the aquatic environment: Acute Category 1 (H400) or Chronic Category 3 (H412), in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council shall be in addition anaerobically biodegradable.

b. Biodegradability of organic compounds

The content of organic substances in the product (except micro-organisms in the case of HSC) that are aerobically non-biodegradable (not readily biodegradable, aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

Table 13. Limits of aNBO and anNBO for each product category (I)

Product type			aNBO	anNBO
LD (g/kg of laundry)	Heavy-duty laundry detergent, colour-safe detergent	Powder/tablets	1,00	1,10
		Liquid, capsules, gel	0,45	0,55
	Light-duty detergent	Powder/tablets	0,55	0,55
		Liquid, capsules, gel	0,30	0,30
	Stain remover (pre-treatment only)	Powder/tablets	0,10	0,10
		Liquid, capsules, gel	0,10	0,10
DD (g/wash)	Dishwasher detergents		1,00	3,00
	Rinse aids		0,15	0,50
HSC (g/l of cleaning solution)	All-purpose cleaners	RTU	3,00	55,00
		Undiluted	0,20	0,50
	Kitchen cleaners	RTU	5,00	35,00
		Undiluted	0,20	0,50
	Window cleaners	RTU	2,00	20,00

HDD (g/l of washing water)		Undiluted	0,20	0,50
	Sanitary cleaners	RTU	5,00	35,00
		Undiluted	0,20	0,50
	Hand dishwashing detergents		0,03	0,08

Table 14. Limits of aNBO and anNBO for each product category (II)

Product type			Water hardness*	aNBO Soft	aNBO Medium	aNBO Hard	anNBO Soft	anNBO Medium	anNBO Hard
IILD (g/kg of laundry)	Powder	Degree of soiling	Light	0,70	1,10	1,40	0,70	1,10	1,40
			Medium	1,10	1,40	1,75	1,10	1,40	1,75
			Heavy	1,40	1,75	2,20	1,40	1,75	2,20
	Liquid		Light	0,50	0,60	0,70	0,50	0,60	0,70
			Medium	0,60	0,70	0,90	0,60	0,70	0,90
			Heavy	0,70	0,90	1,20	0,70	0,90	1,20
	Multi-component system		Light	1,25	1,75	2,50	1,25	1,75	2,50
			Medium	1,75	2,50	3,75	1,75	2,50	3,75
			Heavy	2,50	3,75	4,80	2,50	3,75	4,80
IIDD (g/l of washing solution)	Pre-soaks			0,40	0,40	0,40	0,40	0,40	0,40
	Dishwasher detergents Multi-component systems			0,40	0,40	0,40	0,60	1,00	1,00
	Rinse aids			0,04	0,04	0,04	0,04	0,04	0,04

**Water hardness:*
- *Soft: <1,5 mmol $CaCO_3$/l*
- *Medium: 1,5 – 2,5 mmol $CaCO_3$/l*
- *Hard: >2,5 mmol $CaCO_3$/l*

Assessment and verification:

The applicant shall provide documentation for the degradability of surfactants, as well as the calculation of aNBO and anNBO for the product. A spreadsheet for calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both the degradability of surfactants and the aNBO and anNBO values for organic compounds, reference shall be made to the most updated DID list.

For ingoing substances that are not included in the Part A of the DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided, as described in the Part B of that list.

In the absence of documentation for degradability described above, an ingoing substance other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

(1) it is readily degradable and has low adsorption (A < 25 %);
(2) it is readily degradable and has high desorption (D > 75 %);
(3) it is readily degradable and non-bioaccumulating*

Testing for adsorption/desorption shall be conducted in accordance with OECD Guideline 106.

*A substance is considered to be not bio-accumulating if the BCF is < 100 or log K_{ow} is < 3,0. If both the BCF and log K_{ow} values are available, the highest measured BCF value shall be used.

This criterion shall apply to: preservatives, colouring agents and fragrances regardless of their concentration, and any other ingoing substance if its concentration is equal to or higher than 0,010% weight by weight (except microorganisms in the case of HSC).

In the case of HSC, micro-organisms are not included in the content of organic substances in the product that are aerobically non-biodegradable (not readily biodegradable, aNBO) or anaerobically non-biodegradable (anNBO).

Key points

- *How to prove that an ingoing substance is biodegradable?* Section 3.3.3.1
- *How to calculate the aNBO and anNBO of a product?* Section 3.3.3.2
- *How to proceed when an ingoing substance is not included in the DID list?* Section 3.3.3.3
- *How to conduct a test for adsorption/desorption?* Section 3.3.3.4

Definitions

- ***Surfactant*** means any organic substance and/or mixture used in detergents, which has surface -active properties and which consists of one or more hydrophilic and one or more hydrophobic groups of such a nature and size that it is capable of reducing the surface tension of water, and of forming spreading or adsorption monolayers at the water-air interface, and of forming emulsions and/or microemulsions and/or micelles, and of adsorption at water-solid interfaces (Regulation (EC) No 648/2004).
- ***Organic compounds*** are any of a large class of chemical compounds in which one or more atoms of carbon are covalently linked to atoms of other elements, most commonly hydrogen, oxygen or nitrogen. The few carbon-containing compounds not classified as organic include carbides, carbonates and cyanides.
- ***Biodegradability*** is the ease with which a material or product is broken down by microbes under the right conditions. In the process of biodegradation, carbon chains are used as a food source and are converted into water, biomass, carbon dioxide or methane (depending on whether the process takes place under aerobic or anaerobic conditions).
  - ***Aerobic conditions:*** when the biodegradation process is carried out in the presence of oxygen.
  - ***Anaerobic conditions:*** when the biodegradation process is carried out without oxygen.
- ***Adsorption*** is the phenomenon of accumulation of a large number of molecular species at the surface of a liquid or solid phase in comparison to the bulk. The process of adsorption arises due to presence of unbalanced or residual forces at the surface of a liquid or solid phase. These unbalanced residual forces have a tendency to attract and retain the molecular species which come in contact with at the surface. Adsorption is essentially a surface phenomenon. Low adsorption means that the substance will not enter into or attach to the surface of a solid material.
- ***Desorption*** is the release of one substance from another, either from the surface or through the surface. Desorption can occur when an equilibrium situation is altered. High desorption means that a substance will readily remove itself from the surface of a solid material and enter into water.
- ***Bioaccumulation*** is the accumulation within living organisms of toxic substances occurring in the environment. Bioaccumulation occurs when an organism absorbs a - possibly toxic - substance at a rate faster than that at which the substance is lost by catabolism and excretion. Thus, the longer the biological half-life of a toxic substance the greater the risk of chronic poisoning, even if environmental levels of the toxin are not very high.
- ***Bioconcentration factor (BCF)*** is a measure of the extent of chemical sharing between an organism and the surrounding environment. In surface water, the BCF is the ratio of a chemical's concentration in an organism to the chemical's aqueous concentration. BCF is often expressed in units of litre per kilogram (ratio of mg of chemical per kg of organism to mg of chemical per litre of water).

- ***Octanol-water partition coefficient (K_{ow})*** is the ratio between the molar concentration of an organic compound in octanol and the molar concentration of this organic compound in water when this two-phase system is at equilibrium. K_{ow} is generally reported as a unitless ratio. Within a series of compounds, greater partitioning into n-octanol corresponds to a greater accumulation in an organism.
- ***OECD guidelines*** are a tool for assessing the potential effects of chemicals on human health and the environment. Accepted internationally as standard methods for safety testing, the Guidelines are used by professionals in industry, academia and government involved in the testing and assessment of chemicals (industrial chemicals, pesticides, personal care products, etc.). These Guidelines are regularly updated with the assistance of thousands of national experts from OECD member countries. OECD Test Guidelines are covered by the Mutual Acceptance of Data, implying that data generated in the testing of chemicals in an OECD member country, or a partner country having adhered to the Decision, in accordance with OECD Test Guidelines and Principles of Good Laboratory Practice (GLP), be accepted in other OECD countries and partner counties having adhered to the Decision, for the purposes of assessment and other uses relating to the protection of human health and the environment.

3.3.3.1 Guidance to show compliance with the criterion

1) The applicant shall check if the ingoing substance is included in the DID list.

⚠ **Reference shall always be made to the most updated DID list as available on the EU Ecolabel website.**

1.1) If the ingoing substance is a surfactant, the applicant shall provide documentation showing compliance with part ***a. Biodegradability of surfactants*** from the criterion text.

⚠ **All surfactants shall be readily degradable (aerobically) and those classified as hazardous to the aquatic environment: Acute Category (H400) Chronic Category 3 (H412), shall be in addition anaerobically biodegradable.**

1.2) For all ingoing substances that are organic compounds, the applicant shall check that the total aNBO and anNBO values are below the thresholds listed in part ***b. Biodegradability of organic compounds*** from the criterion text. For further information about this part, see section 3.3.3.2

2) If the ingoing substance is not listed on the DID list, please see section 3.3.3.3.

3) It the ingoing substance other than a surfactant is exempted from anaerobic degradability requirements, see section 3.3.3.4.

3.3.3.2 Guidance to calculate the aNBO and anNBO of a product

⚠ **The calculation of aNBO and anNBO shall be done for all the organic compounds included in the product (except micro-organisms for HSC).**

To carry out this calculation, a spreadsheet can be found in the EU Ecolabel website, where the applicant can introduce the reference dosage of the product, the DID number of each organic compound, the % of each raw material in the product and the % of the substance in the raw material. With this information, the total aNBO and anNBO are calculated automatically.

EU Ecolabel website: http://ec.europa.eu/environment/ecolabel/products-groups-and-criteria.html

The aNBO and anNBO values for organic compounds shall be referenced to the most updated DID list available on the EU Ecolabel website.

Although the results are calculated automatically in the provided spreadsheet, the calculations can also be carried out as explained below:

The aNBO value is the total concentration of aerobically non-biodegradable substances contained in the reference dosage of the product.

The anNBO value is the total concentration of anaerobically non-biodegradable substances contained in the reference dosage of the product.

The total aNBO and anNBO can be determined by summing the concentration of each organic compound in the reference dosage which is not readily biodegradable or anaerobically biodegradable, respectively:

$$aNBO = \sum aNBO_i$$
$$anNBO = \sum anNBO_i$$

Individual values of $aNBO_i$ and $anNBO_i$ can be calculated depending on the aerobic and anaerobic biodegradability of the substance:

$aNBO_i$:

- If the organic compound is readily biodegradable (R) then: **$aNBO_i$ = 0**
- If the substance is inherently biodegradable but not readily biodegradable (I), persistent (P) or not tested for aerobic biodegradability (O), then: **$aNBO_i$ = amount of organic compound in the reference dosage in grams.**

$anNBO_i$:

- If the organic compound is anaerobically biodegradable (Y), then: **$anNBO_i$ = 0**
- If the substance is anaerobically not biodegradable (N) or has not been tested for anaerobic biodegradability (O), then: **$anNBO_i$ = amount of organic compound in the reference dosage in grams.**

For non-organic compounds, the biodegradability is indicated in the DID list as not applicable (NA).

In order to clarify the calculation of the aNBO and anNBO, an example is provided below. The numerical values expressed herein are not representative of any specific product and may greatly differ from real-life product.

Example 1. Rinse aid with a reference dosage of 2,7 ml/wash (= 3 g/wash). The organic compound A is present at a concentration of 10% weight by weight, the organic compound B 4% weight by weight, the organic compound C 4% and the organic compound D 3%.

- Organic compound A:
  - Reference dosage → $\frac{10}{100} \cdot 3 = 0{,}3\ g/wash$
  - Aerobically readily biodegradable → aNBO (A) = 0
  - Anaerobically biodegradable → anNBO (A) = 0

- Organic compound B:
  - Reference dosage → $\frac{4}{100} \cdot 3 = 0{,}12\ g/wash$
  - Persistent → aNBO (B) = 0,12
  - Anaerobically not biodegradable → anNBO (B) = 0,12

- Organic compound C:
  - Reference dosage → $\frac{4}{100} \cdot 3 = 0{,}12\ g/wash$
  - Aerobically biodegradable → aNBO (C) = 0
  - Anaerobically not tested → anNBO (C) = 0,12

- Organic compound D:
  - Reference dosage → $\frac{3}{100} \cdot 3 = 0{,}09\ g/wash$
  - Aerobically readily biodegradable → aNBO (D) = 0
  - Anaerobically biodegradable → anNBO (D) = 0

aNBO (sum) = 0 + 0,12 + 0 + 0 = 0,12 g/wash
anNBO (sum) = 0 + 0,12 + 0,12 + 0 = 0,24 g/wash

For rinse aids, the aNBO limit is 0,15 g/wash and the anNBO limit is 0,50 g/wash. Then, this rinse aid successfully passes the requirements set out in the sub-criterion on biodegradability of organic compounds.

3.3.3.3 Guidance on how to proceed when an ingoing substance is not listed in Part A of the DID list

If a substance is not listed in the Part A of the DID list, the parameters must be calculated by using the guidelines contained in the Part B of the DID list and the additional document titled "Additional information for substances not listed in DID list", both available at the EU Ecolabel website.

EU Ecolabel website: http://ec.europa.eu/environment/ecolabel/products-groups-and-criteria.html

3.3.3.4 Guidance to conduct a test for adsorption/desorption

In the absence of documentation for anaerobic degradability, substances that are not surfactants may be exempted from the anaerobic degradability requirements if they are readily aerobically degradable and accomplish at least one of the following alternatives:

- They have a low adsorption (A < 25%),
- They have a high desorption (D > 75%) or
- They are not potentially bioaccumulable (BCF < 100 or log K_{ow} < 3,0 if both values are available the highest measured BCF value shall be used).

Note that this exemption regarding documentation for anaerobic biodegradability does not apply to surfactants.

Note that this exemption does not apply for aerobic degradability.

Adsorption/desorption is determined by using method 106 in OECD Guidelines. This Test Guideline is aimed to estimate the adsorption/desorption behaviour of a chemical on different soil types. The goal is to obtain a sorption value which could be used to predict partitioning under a variety of environmental conditions; to this end, equilibrium adsorption coefficients for a chemical on various soils are determined as a function of soil characteristics (organic carbon, clay content, soil texture, and pH).
The test comprises three tiers. The tier 1 is the preliminary study, the tier 2 is the screening test (in 5 soils) and the tier 3 is the determination of Freundlich adsorption isotherms or the study of desorption by means of desorption kinetics/Freundlich desorption isotherms, as appropriate.
Two methods are possible for analyse: the indirect method and the direct method.

- The indirect method consists of the adjunction of the test substance to soil samples, the agitation of the mixture for an appropriate time, the analysis of the aqueous phase after centrifugation and the filtration of the soil suspension. The amount of test substance adsorbed on the soil sample is calculated as the difference between the amount of test substance initially present in the solution and the amount remaining at the end of the experiment.
- The direct method is recommended when the difference in the solution concentration of the substance cannot be accurately determined.

OECD Guidelines website:
http://www.oecd.org/env/ehs/testing/oecdguidelinesforthetestingofchemicals.htm

The documentation associated to the test shall be provided to and approved by the Competent Body.

3.3.4 Criterion: Sustainable sourcing of palm oil, palm kernel oil and their derivatives

This criterion applies to all the product categories included in this manual.

Unified criterion text from the different Commission Decisions:

Ingoing substances used in the products which are derived from palm oil or palm kernel oil shall be sourced from plantations that meet the requirements of a certification scheme for sustainable production that is based on multi-stakeholder organizations that has a broad membership, including NGOs, industry and government and that addresses environmental impacts including on soil, biodiversity, organic carbon stocks and conservation of natural resources.

Assessment and verification:
The applicant shall provide evidence through third-party certificates and chain of custody that palm oil and palm kernel oil used in the manufacturing of the ingoing substances originates from sustainably managed plantations.
Certificates accepted shall include Roundtable for Sustainable Palm Oil (RSPO) (by identity preserved,

segregated or mass balance) or any equivalent or stricter sustainable production scheme.
For chemical derivatives of palm oil and for palm kernel oil, it shall be acceptable to demonstrate sustainability through book and claim systems such as GreenPalm certificates or equivalent by providing the Annual Communications of Progress (ACOP) declared amounts of procured and redeemed GreenPalm certificates during the most recent annual trading period.

This criterion shall apply to surfactants and any other ingoing substances other than preservatives, colouring agents and fragrances (e.g. enzymes) if their concentration is equal to or higher than 0,010% weight by weight and they are made from palm oil, palm kernel oil or their derivatives.

ⓘ Key points

Palm oil and palm kernel oil:
- *How to ensure that palm oil and palm kernel oil originate from sustainably managed plantations?* Section 3.3.4.1
- *How to ensure that palm oil and palm kernel oil are covered by chain of custody certificates?* Section 3.3.4.2

Derivates:
- *Examples of palm oil and palm kernel oil derivatives.* Section 3.3.4.3
- *How to demonstrate sustainability of derivatives?* Section 3.3.4.4

Other issues:
- *Equivalency of schemes.* Section 3.3.4.5
- *Examples on how to demonstrate compliance with this criterion.* Section 3.3.4.6

Definitions
- ***Palm oil*** is oil obtained by pressing from the flesh of the fruits of the oil palm tree.
- ***Palm kernel oil*** is oil produced from the kernel (or stone) of the fruit of the oil palm tree.
- ***Derivatives***: are chemical products obtained by further processing of the palm oil and palm kernel oil. A range of derivatives and fractions can be produced. See definition and scope at Section 3.3.4.3.
- ***GreenPalm***[3] (now replaced with "RSPO credits") operated the RSPO Book and Claim supply chain option. GreenPalm was a certificate trading programme that allowed manufacturers and retailers to purchase GreenPalm certificates from an RSPO certified palm oil grower to offset each tonne of palm oil, palm kernel oil they use[4]. The endorsement of GreenPalm as the service provider of the trade in Book and Claim certificates stopped as of 1st January 2017. From this date, RSPO certified volumes can be sold via the Book and Claim model on the RSPO eTrace platform. RSPO certified volumes sold through the Book

[3] http://greenpalm.org/about-greenpalm/what-is-green-palm
[4] There is no guarantee that the end product contains certified sustainable palm oil, but this option directly supports RSPO certified growers and farmers. It also allows organisations to support sustainable palm oil instantly despite complicated supply chains or the use of complex palm and palm kernel fractions and derivatives.

and Claim eTrace model from 1st January 2017 are branded as RSPO Credits and the RSPO Rules on Market Communications and Claims are currently being revised to accommodate this change.[5]

- ***Certification scheme***: the main features of a certification scheme (e.g. RSPO) consist of the following three elements:
  1) **Standard:** sets out the requirements which must be met and against which certification assessments are made. They are usually Principles and Criteria.
  2) **Accreditation**: ensures that the organisations which undertake the certification assessment, the Certification Bodies, are competent to undertake credible, consistent audits.
  3) **Process requirements**: process for establishing whether or not a set of requirements (i.e. the Standard) has been met and is carried out by an accredited Certification Body.
- ***Chain of custody certification (CoC)*** is a tool/system that verifies that certified material is identified or kept segregated from non-certified or non-controlled material throughout the chain of custody. The CoC system must be in place from the forest unit of origin to the final point of sale, which provides a link between the sustainable-certified material in the product or product line and certified forest/plantation unit. Mixing of sustainable-certified and non-certified products must be done under controlled procedures that meet the CoC requirements.
  CoC certification allows companies to label their products with the stamp of the certification scheme (e.g. Greenpalm or RSPO), which in turn enables consumers to identify and choose products that support responsible area management.
- ***Annual Communications of Progress (ACOP)***: The Annual Communications of Progress are reports submitted by RSPO members to gauge their progress towards 100% RSPO-certified sustainable palm oil. These reports are mandatory for Ordinary and Affiliate members, and are submitted each year. For each ACOP reporting period, the reports must be submitted during a specific period. For example, the ACOP 2015 reporting period started on 15 February 2016 and ended on 15 April 2016, while the ACOP 2016 reporting period has been between 17 March and 19 May 2017. The RSPO emails announcements and notifications to all members prior to the beginning of the ACOP reporting period. The RSPO cannot accept ACOP member reports submitted after the deadline, nor requests for extension, in order to allow for proper processing of ACOP data, and to respect publication deadlines. Note that the ACOP is an annual/yearly requirement which will be indicated when ACOP reporting is announced.

3.3.4.1 Guidance to ensure that palm oil and palm kernel oil originate from sustainably managed plantations

Sustainable palm oil and palm kernel oil production should take into consideration environmentally appropriate, economically viable and socially beneficial management and operations. For the award of the EU Ecolabel, the environmental aspects of certification schemes are the most important. These should include at least criteria regarding the quality of soil, depletion of biodiversity, organic carbon stocks and conservation of natural resources.

If palm oil, palm kernel oil or their derivatives are used for the production of substances used in detergents, it should be verified/demonstrated that:

- the principles and criteria of the certification scheme used are in line or exceed the requirements set out in this criterion,
- the palm oil or palm kernel oil is covered by this certification scheme with a valid traceability scheme.

5 https://www.rspo.org/news-and-events/news/everything-you-need-to-know-about-rspo-credits-currently-greenpalm

Regarding the certification schemes that fulfil or exceed the requirements of this criterion, one example of scheme is the RSPO[6]. This certification scheme complies with this criterion because it holds 8 principles and several criteria, summarised as follows:

1. Commitment to transparency
2. Compliance with applicable laws and regulations
3. Commitment to long-term economic and financial viability
4. Use of appropriate best practices by growers and millers of activities
5. Environmental responsibility and conservation of natural resources and biodiversity
6. Responsible consideration of employees, and of individuals and communities affected by growers and mills
7. Responsible development of new plantings
8. Commitment to continuous improvement in key areas

And more in detail, there is a criterion that requires that "*No primary forests or areas which contain significant concentrations of biodiversity (e.g. endangered species) or fragile ecosystems, or areas which are fundamental to meeting basic or traditional cultural needs of local communities (high conservation value areas), can be cleared*". And also "*a significantly reduced use of pesticides and fires; fair treatment of workers according to local and international labour rights standards, and the need to inform and consult with local communities before the development of new plantations on their land*" is required.

Therefore, it can be considered that the RSPO has developed a set of environmental and social criteria which companies must comply with in order to produce Certified Sustainable Palm Oil (CSPO) and these fulfil the requirements set out in this criterion. When they are properly applied, these criteria can help minimize the negative impact of palm cultivation on the environment and communities in palm oil-producing regions.

For palm oil and kernel oil, the RSPO certification, and any other certification schemes that also fulfil the requirement of this EU Ecolabel criterion and are independent third-party certifications, can be considered as valid.

RSPO website: http://www.rspo.org/

The acceptance of an equivalent certification scheme shall be decided at EU Ecolabel Board level. Further indications are given in section 3.3.4.5.

3.3.4.2 Guidance to ensure that oils are covered by chain of custody certificates (CoC)

Besides the certification system on sustainable production, the certification scheme should have set up a third-party certified system that ensures the integrity of the trade (i.e. that palm oil or palm kernel oil sold as sustainable palm oil or palm kernel oil have indeed been produced in certified plantations).

Between the forest/plantation and the final user, products may undergo many stages of processing, manufacturing and distribution. The CoC is a traceability system from the point of forest unit to the final point of sale as explained in the definitions. The CoC of a certification system needs to meet the following requirements:

[6] *The Roundtable of Sustainable Palm Oil (RSPO) is a* non-profit organisation that was set up to promote the production and use of sustainable palm oil. It has members from producers, retailers, manufactures and NGOs.

1) Each individual organization in the CoC possesses an operational CoC system with a management system that provides sufficient guarantees that the requirements of the CoC standard are being met.
2) Each individual organization registers the quantities and the names and certificate numbers of the organizations from which it purchases palm oil or palm kernel oil.
3) Certified oil, oil from other verified legal sources and oil from non-verified legal sources are administratively separated. Oil from non-verified legal sources is also physically separated from the other two sources.

The RSPO Supply Chain Standard guarantees that the palm oil or palm kernel oil used is covered through this system. It supports the following supply chain models for the uptake of the certified palm oil and palm kernel oil products:

- Identify Preserved (IP): CSPO is kept segregated from all other sources (certified and non-certified) and a batch of certified palm oil can be traced from plantation to factory to retailer.

- Segregated system (SG): ensures that certified palm oil is kept apart throughout the supply chain. Only certified oil from certified plantations is mixed. The buyer can be sure that its oil comes from RSPO certified plantations.

- Mass Balance system (MB): it allows buying a volume of palm oil corresponding to a quantity of sustainable palm oil really produced. The RSPO certified palm oil enters the classic supply chain where it is mixed with non-certified palm oil entered in the supply chain. The buyer does not buy only physical certified palm oil but supports the implementation of traceability.

The traceability of certified palm oil is ensured throughout the supply chain until the last refinery through the RSPO supply chain database thanks to identification numbers put on invoices and certificates. From the final refinery until the end product, the traceability is made by invoices and supply chain certification of companies.

To ensure the equivalence of the certification scheme chosen, with a proper traceability system, any of the mentioned traceability systems are accepted for this criterion: IP, SG or MB.

All organisations in the supply chain that use RSPO certified sustainable oil products are audited to prevent overselling and mixing palm oil with conventional (or non-sustainable) oil palm products. These organisations can claim the use of RSPO certified sustainable oil palm products "on pack" by using the RSPO Trademark.[7]

The acceptance of the chain of custody certificates from an equivalent certification scheme shall be decided at EU Ecolabel Board level.

3.3.4.3 Examples of palm oil and palm kernel oil derivatives

[7] http://www.rspo.org/trademark/

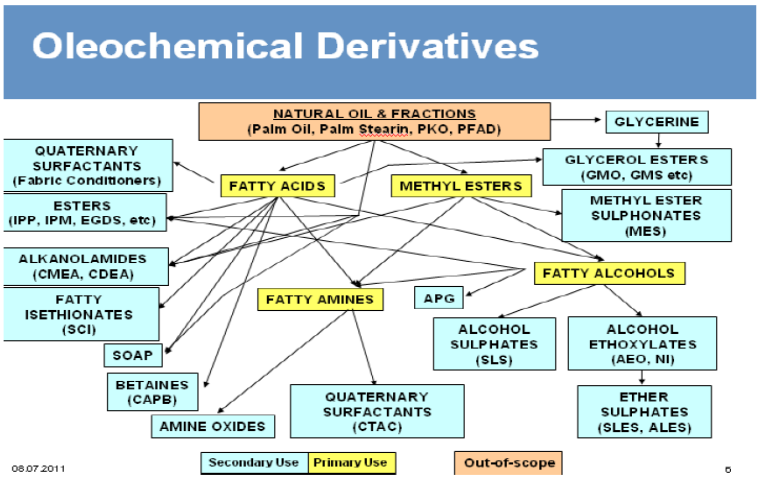


Figure 1. Major primary and secondary Oleochemicals and their derivatives

The figure above shows palm oil derivatives and palm kernel oil derivatives that contain a majority of C_8-C_{18} C-Chains. Products with other dominant C-Chains >C_{18} will not be derived from palm oil and palm kernel oil. Groups presented in this figure have been limited to the major primary and secondary oleochemicals and their derivatives.

The following table shall serve as a guiding structure for the commonly used oleochemicals and derivatives.

Table 15. List of most common used palm and palm kernel oils derivatives

Type of derivative	**Derivative produced from**
Fatty acid	Palm kernel oil
Methyl esters	Palm oil
Fatty alcohols	Blend of palm oil and palm kernel oil*
Tertiary fatty amines	Palm kernel oil, reflecting their primary production from Fatty Alcohol C_{12}- C_{14}
Primary amines	Shall be considered in line with Fatty Acids and Methyl esters
Glycerine	Palm based glycerides (also available as non-palm based material)
Cocoamidopropyl betaine (fatty acid derivative)	Palm kernel oil
Sodium laureth sulfate	Palm kernel oil
Sodium laureth-1 sulfate	Palm kernel oil
Sodium laureth-2 sulfate	Palm kernel oil
Sodium laureth-3 sulfate	Palm kernel oil
Sodium stearate	Palm oil
Sodium palm kernelate	Palm kernel oil
Laureth-7	Palm kernel oil
Steareth-2	Palm kernel oil
Cocamide MEA (fatty acid derived	Palm kernel oil
Cocamide DEA (fatty acid derived	Palm kernel oil
Stearamidopropyldimethylamine	Palm oil
Cetyltrimethylammonium chloride	Palm kernel oil
Isopropylpalmitate	Palm oil
Isopropylmyristate	Palm kernel oil

Caprylic/capric triglyceride	Palm kernel oil
Fatty Isethionates (SCI)	Palm kernel oil
Alkylpolyglycoside (APG)	Palm kernel oil
Laurylamine oxide	Palm kernel oil

* Their raw material reference shall be palm oil

3.3.4.4 Guidance to demonstrate sustainability of derivatives

At the date of approval of the Commission Decisions related to detergents and cleaning products, the sale of credits via the Book and Claim model for chemical derivatives of palm oil and for palm kernel oil was facilitated by GreenPalm, which run on a separate IT platform than RSPO. However, the RSPO eTrace IT platform has been expanded to include the trading of RSPO credits via the Book and Claim model. Credits purchased by buyers have a validity of 1 year from the date of purchase and have to be claimed/redeemed within that period.

Since 1st January 2017, RSPO Credits replace GreenPalm certificates. Note that the transition to the new system is not reflected in the text of the criterion (i.e. the criterion text only gives the example of GreenPalm), as this was state-of-art at the time of criteria revision. Notwithstanding, RSPO credits are acceptable form of proof for this criterion.

A brief overview of the differences between both Greenpalm and RSPO Credits rules that are applicable from 1st January 2017 can be found in the following links:

RSPO credits:
http://www.rspo.org/publications/download/db1a107eabd37c8
https://www.rspo.org/news-and-events/news/everything-you-need-to-know-about-rspo-credits-currently-greenpalm

Detailed information about these improvements and the schedule for trainings and webinars will be published every month in the RSPO e-gazette, RSPO website and the welcome page of eTrace.

http://www.rspo.org/certification/etrace

The acceptance of an equivalent certification scheme shall be decided at EU Ecolabel Board level

3.3.4.5 Equivalency of certification schemes

It is generally agreed that the main features of certification schemes consist of the following three elements included in the definition boxes: standard, certification process and accreditation. The three elements together ensure that a certification scheme sets requirements which must be met, that the process for developing a standard includes a consultation and representation from different stakeholder groups and that the mechanism for ensuring that the organizations undertaking certifications are competent and produce credible, consistent results. Additionally, it ensures that the schemes include a mechanism for tracing the materials from the certified forest through each stage (usually referred to as "chain of custody").

For a certification scheme to be considered as equivalent, it shall at least accomplish the three elements listed above along with setting principles or specific criteria that r the requirements listed in the EU Ecolabel

criterion (i.e. principles or criteria on environmental impacts including on soil, biodiversity, organic carbon stocks and conservation of natural resources).

3.3.4.6 Examples on how to demonstrate compliance with this criterion

Example 1. Example of ingoing substances that contain palm kernel oil originating from sustainable managed plantations and are covered by chain of custody certificates

A surfactant based on palm kernel oil is bought from a supplier that uses a segregated tracking system and is member of RSPO.

Then, the proofs of compliance are:

- A **declaration of the supplier** with a reference to his/her RSPO membership number at the end of the calendar year.
- The applicant has to prove throughout **invoices** that he bought enough amount of that surfactant to produce his/her EU Ecolabel products.

Example 2. Example of ingoing substance that contain non certified palm kernel oil

If the surfactant based on palm kernel oil is bought from a supplier that doesn't use palm kernel oil covered by RSPO, the applicant has to buy RSPO credits and redeemed them in the same calendar year.

The proof at the time of applying will be his **own membership number**, and after the calendar year the producer has to show that s/he bought and redeemed enough **RSPO credits** to produce the EU Ecolabel products.

3.3.5 Criterion: Excluded and restricted substances

This criterion applies to all the product categories included in this manual.

Please, check which sub-criteria are applicable to your product category:

Criterion Excluded and restricted substances						
Sub-criteria / **Product type**	**LD**	**IILD**	**DD**	**IIDD**	**HSC**	**HDD**
a. Specified excluded and restricted substances	X	X	X	X	X	X
b. Hazardous substances	X	X	X	X	X	X
c. Substances of very high concern (SVHCs)	X	X	X	X	X	X
d. Fragrances	X	X	X	X	X	X
e. Preservatives	X	X	X	X	X	X
f. Colouring agents	X	X	X	X	X	X

g. Enzymes	X	X	X	X	X	X
h. Micro-organisms*					X	
i. Corrosive properties						X

* Only if microorganisms are intentionally added to the product

Sub-criterion (a): Specified excluded and restricted substances

Unified criterion text and values from the different Commission Decisions:

a. Specified excluded and restricted substances

(i) Excluded substances

The substances indicated below shall not be included in the product formulation regardless of concentration:

- Alkyl phenol ethoxylates (APEOs) and other alkyl phenol derivatives;
- Atranol;
- Chloroatranol;
- Diethylenetriaminepentaacetic acid (DTPA);
- Ethylenediaminetetraacetic acid (EDTA) and its salts;
- Formaldehyde and its releasers (e.g. 2-bromo-2-nitropropane-1,3-diol, 5-bromo-5-nitro-1,3-dioxane, sodium hydroxyl methyl glycinate, diazolidinylurea), with the exception of impurities of formaldehyde in surfactants based on polyalkoxy chemistry up to a concentration of 0,010% weight by weight in the ingoing substance;
- Glutaraldehyde;
- Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC);
- Microplastics;
- Nanosilver;
- Nitromusks and polycyclic musks;
- Phosphates **(except in the case of IILD and IIDD)**;
- Per-fluorinated alkylates;
- Quaternary ammonium salts not readily biodegradable;
- Reactive chlorine compounds;
- Rhodamine B;
- Sodium hydroxyl methyl glycinate;
- Triclosan;
- 3-iodo-2-propynyl butylcarbamate.
- Aromatic hydrocarbons **(only in the case of HSC)**;
- Halogenated hydrocarbons **(only in the case of HSC)**;
- Fragrances **(only for professional HDD products)**

Assessment and verification:

The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, confirming that the listed substances have not been included in the product formulation regardless of concentration.

(ii) Restricted substances

The substances listed below shall not be included in the product formulation above the concentrations

indicated:

- 2-methyl-2H-isothiazol-3-one: 0,0050 % weight by weight **(for HSC and HDD, should the value of 2-methyl-2H-isothiazol-3-one allowed in Annex V (List of preservatives allowed in cosmetic products) to Regulation (EC) No 1223/2009[8] be lower at the time of the application, then this lower value shall take precedence)**;
- 1,2-Benzisothiazol-3(2H)-one: 0,0050 % weight by weight;
- 5-chloro-2-methyl-4-isothiazolin-3-one/2-methyl-4-isothiazolin-3-one: 0,0015% weight by weight.

The total phosphorus (P) content calculated as elemental P shall be limited to:

Table 16. Limits for total P content of each product category

Product Category				Total P content
LD (g/kg of laundry)	Laundry detergents			0,04
	Stain removers			0,005
IILD (g/kg of laundry)	Light soil			0,50
	Medium soil			1,00
	Heavy soil			1,50
DD (g/wash)	Dishwasher detergents			0,20
	Rinse aids			0,030
IIDD (g/l of washing solution)	Pre-soaks	Water hardness (mmol/ $CaCO_3$/l)	Soft (<1,5)	0,08
			Medium (1,5-2,5)	0,08
			Hard (>2,5)	0,08
	Dishwasher detergents		Soft (<1,5)	0,15
			Medium (1,5-2,5)	0,30
			Hard (>2,5)	0,50
	Rinse aids		Soft (<1,5)	0,02
			Medium (1,5-2,5)	0,02
			Hard (>2,5)	0,02
	Multi-component system		Soft (<1,5)	0,17
			Medium (1,5-2,5)	0,32
			Hard (>2,5)	0,52
HSC (g/l of RTU product or cleaning solution)	All-purpose cleaners		RTU	0,02
			Undiluted	0,02
	Kitchen cleaners		RTU	1,00
			Undiluted	1,00
	Window cleaners		RTU	0,00
			Undiluted	0,00
	Sanitary cleaners		RTU	1,00
			Undiluted	1,00
HDD (g/l of washing water)	Hand dishwashing detergent			0,08

8 Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products (OJ L 342, 22.12.2009, p. 59–209).

Fragrance substances subject to the declaration requirement provided in Regulation (EC) No 648/2004[9] shall not be present in quantities ≥ 0,010 % weight by weight per substance **(except in the case of IIDD, which shall not contain fragrances)**.

Only in the case of HSC, VOCs** shall not be present above the limits specified below.

Table 17. VOC limits for each product type of HSC

Product type		VOC limit
RTU (g/l of RTU product)	All-purpose cleaners	30
	Kitchen cleaners	60
	Window cleaners	100
	Sanitary cleaners	60
Undiluted (g/l of cleaning solution)	All-purpose cleaners	30
	Kitchen cleaners	60
	Window cleaners	100
	Sanitary cleaners	60

**VOCs mean any organic compound having a boiling point lower than 150 °C.

Assessment and verification:

The applicant shall provide the following documents:

(a) If isothiazolinones are used, a signed declaration of compliance supported by declarations from suppliers, if appropriate, confirming that the content of isothiazolinones used is equal to or lower than the limits set;

(b) A signed declaration of compliance supported by declarations from suppliers, if appropriate, confirming that the total amount of elemental P is equal to or lower than the limits set. The declaration shall be supported by the calculations of the product's total P-content;

(c) A signed declaration of compliance supported by declarations or documentation from suppliers, if appropriate, confirming that the fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 are not present above the limits set. **For HDD professional products**, a signed declaration of non-presence of fragrances shall be provided.

(d) **Only in the case of HSC**, a signed declaration of compliance supported by declarations from the suppliers, if appropriate, confirming that the total amount of VOCs is below the set limits. This declaration shall be supported by test reports or calculations of the VOC content based on the list of ingredients.

9 Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents (OJ L 104, 8.4.2004, p. 1–35).

ⓘ **Key points**

Sub-criterion: a. Specified excluded and restricted substances

- *How to show compliance with this sub-criterion?* Section 3.3.5.1.
- *How to calculate the total P-content of a product?* Section 3.3.5.2.
- *How to calculate the VOC content of an HSC product?* **(only for HSC)** Section 3.3.5.3.

Definitions

Volatile Organic Compounds (VOCs) are organic chemicals that have a high vapour pressure at ordinary room temperature. Their high vapour pressure results from a low boiling point, which causes large numbers of molecules to evaporate or sublimate from the liquid or solid form of the compound and enter the surrounding air, a trait known as volatility. In the context of EU Ecolabel Detergents and Cleaning Products, any organic compound having a boiling point lower than 150 ºC is considered a VOC.

Please mind that formic acid and acetic acid are VOCs and should be calculated for the total VOC content.

3.3.5.1 Guidance to show compliance with the sub-criterion "Specified excluded and restricted substances"

⚠ **The sub-criterion "Specified excluded and restricted substances" shall apply to any ingoing substance listed in the criterion regardless of its concentration in the final product.**

The applicant shall check if any of the ingoing substances included in the product appears in the list of *Excluded substances*. If so, this ingoing substance shall be removed or replaced by another one not included in this list.

The applicant shall also check if any of the ingoing substances included in the product is one of the restricted substances listed in the section *Restricted substances*. If so, the applicant shall ensure that the concentration of this ingoing substance is below the limits set.

For both sub-criteria, the applicant shall request the appropriate declarations from their suppliers, if appropriate, and present them to the Competent Body.

⚠ **Insoluble synthetic polymer particles such as opacifiers, insoluble synthetic wax and biodegradable micro-plastics should be considered as micro-plastics for the purpose of this EU Ecolabel;**

⚠ **Important information regarding sub-criterion (ii) Restricted substances for HSC and HDD:**

Requirement: 2-methyl-2H-isothiazol-3-one: 0,0050 % weight by weight (for HSC and HDD, should the value of 2-methyl-2H-isothiazol-3-one allowed in Annex V (List of preservatives allowed in cosmetic products) to Regulation (EC) No 1223/2009 be lower at the time of the application, then this lower value shall take precedence);

Commission Regulation (EU) 2017/1224 of 6 July 2017 amending Annex V to Regulation (EC) No 1223/2009 of the European Parliament and of the Council on cosmetic products set a new allowed concentration of up to 0,0015 % (15 ppm) of Methylisothiazolinone states that for rinse-off cosmetic products.

- From 27 January 2018 only cosmetic products which comply with this Regulation shall be placed on the Union market.
- From 27 April 2018 only cosmetic products which comply with this Regulation shall be made available on the Union market.

The same allowed concentration applies to HSC and HDD products which are to be ecolabelled after the data of implementation of the above-mentioned amendment.

3.3.5.2 Guidance to calculate the total P-content of the product

The applicant shall calculate the total amount of phosphorus, as elemental P, and ensure that it does not exceed the limits set in the sub-criterion for the corresponding product category. In order to clarify how the calculation of the total amount of P should be done, an example is provided below. The numerical values listed are not representative for any specific product and can greatly differ from real-life products.

Example 1. Laundry detergent (LD) with a reference dosage of 14 g/kg of laundry containing 2% of tetradecyl phosphonate (TP).

Amount of TP in the reference dosage:

$$\frac{2}{100} \cdot 14 \frac{g}{kg} of\ laundry = 0{,}28\ g\ TP/kg\ of\ laundry$$

Molecular formula of TP: $C_{14}H_{31}O_3P$
Molecular weight of TP: 278,4 g/mol
Atomic weight of phosphorus (P): 31 g/mol

$$\frac{0{,}28\ g\ TP}{1\ kg\ of\ laundry} \cdot \frac{1\ mol\ TP}{278{,}4\ g\ TP} \cdot \frac{1\ mol\ P}{1\ mol\ TP} \cdot \frac{31\ g\ P}{1\ mol\ P} = 0{,}03\ g\ P/kg\ of\ laundry$$

The limit for laundry detergents (LD) is 0,04 g/kg of laundry. Therefore this liquid detergent successfully passes the requirement on the maximum total P content.

3.3.5.3 Guidance to calculate the VOC content of an HSC product

VOC limits shall only apply to HSC products.

In the case of HSC products, the applicant shall ensure that the total amount of VOCs in the product is below the indicated limits. A spreadsheet can be found in the EU Ecolabel website, where the applicant can introduce the reference dosage of the product, among other details. With this information and specifying if a substance is a VOC or not, the result is calculated automatically.

EU Ecolabel website: http://ec.europa.eu/environment/ecolabel/products-groups-and-criteria.html

Example 1. Window cleaner RTU (HSC) containing the VOCs: 4% ethanol (boiling point = 78ºC) and 2% isopropyl alcohol (boiling point = 83 ºC).

Reference dosage of the product: 1 L of RTU product
Amount of ethanol in the reference dosage:

$$\frac{4}{100} \cdot 1000 = 40\ g/l\ of\ RTU\ product$$

Amount of isopropyl alcohol in the reference dosage:

$$\frac{2}{100} \cdot 1000 = 20\ g/l\ of\ RTU\ product$$

Total amount of VOCs = 40 + 20 = 60 g/l of RTU product

The limit for window cleaners RTU is 100 g/l of RTU product. Therefore this product successfully passes the requirement on the total amount of VOCs.

Sub-criterion (b): Hazardous substances

Unified criterion text from the different Commission Decisions:

b. Hazardous substances

(i) Final product

The final product shall not be classified and labelled as being acutely toxic, a specific target organ toxicant, a respiratory or skin sensitizer, carcinogenic, mutagenic or toxic for reproduction, or hazardous to the aquatic environment, as defined in Annex I to Regulation (EC) No 1272/2008 and in accordance with the list in Table 18.

IILD only

- products containing peracetic acid and hydrogen peroxide used as bleaching agent may be classified and labelled as hazardous to the aquatic environment [Chronic Category 1 (H410), Chronic Category 2 (H411) or Chronic Category 3 (H412)], if the classification and labelling are triggered by the presence of these substances.

(ii) Ingoing substances

The product shall not contain ingoing substances at a concentration limit at or above 0,010 % weight by weight in the final product that meet the criteria for classification as toxic, hazardous to the aquatic environment, respiratory or skin sensitizers, carcinogenic, mutagenic or toxic for reproduction in accordance with Annex I to Regulation (EC) No 1272/2008 and in accordance with the list in Table 18. Where stricter, the generic or specific concentration limits determined in accordance with Article 10 of Regulation (EC) No 1272/2008 shall take precedence.

Table 18. Restricted hazard classifications and their categorization

Acute toxicity

Categories 1 and 2	**Category 3**
H300 Fatal if swallowed	H301 Toxic if swallowed
H310 Fatal in contact with skin	H311 Toxic in contact with skin
H330 Fatal if inhaled	H331 Toxic if inhaled
H304 May be fatal if swallowed and enters airways	EUH070 Toxic by eye contact
Specific target organ toxicity	
Category 1	**Category 2**
H370 Causes damage to organs	H371 May cause damage to organs
H372 Causes damage to organs through prolonged or repeated exposure	H373 May cause damage to organs through prolonged or repeated exposure
Respiratory and skin sensitization	
Category 1A/1	**Category 1B**
H317 May cause allergic skin reaction	H317 May cause allergic skin reaction
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
Carcinogenic, mutagenic or toxic for reproduction	
Categories 1A and 1B	**Category 2**
H340 May cause genetic defects	H341 Suspected of causing genetic defects
H350 May cause cancer	H351 Suspected of causing cancer
H350i May cause cancer by inhalation	
H360F May damage fertility	H361f Suspected of damaging fertility
H360D May damage the unborn child	H361d Suspected of damaging the unborn child
H360FD May damage fertility. May damage the unborn child	H361fd Suspected of damaging fertility. Suspected of damaging the unborn child
H360Fd May damage fertility. Suspected of damaging the unborn child	H362 May cause harm to breast fed children
H360Df May damage the unborn child. Suspected of damaging fertility	
Hazardous to the aquatic environment	
Categories 1 and 2	**Categories 3 and 4**
H400 Very toxic to aquatic life	H412 Harmful to aquatic life with long-lasting effects
H410 Very toxic to aquatic life with long-lasting effects	H413 May cause long-lasting effects to aquatic life
H411 Toxic to aquatic life with long-lasting effects	
Hazardous to the ozone layer	
H420 Hazardous to the ozone layer	

This criterion does not apply to ingoing substances covered by Article 2(7)(a) and (b) of Regulation (EC) No 1907/2006 which set out criteria for exempting substances within Annexes IV and V to that Regulation from the registration, downstream user and evaluation requirements. In order to determine whether that exclusion applies, the applicant shall screen any ingoing substance present at a concentration above 0,010% weight by weight.

Substances and mixtures included in Table 19 are exempted from point (b)(ii) of this Criterion.

Table 19. Derogated substances

Product Catergory	Substance	Hazard statement
ALL PRODUCT CATEGORIES	Surfactants	H400 Very toxic to aquatic life
		H412 Harmful to aquatic life with long-lasting effects
	Enzymes(*)	H317 May cause allergic skin reaction
		H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
	NTA as an impurity in MGDA and GLDA (**)	H351 Suspected of causing cancer

LD, IILD, DD, IIDD and HDD	Subtilisin	H400 Very toxic to aquatic life
		H411 Toxic to aquatic life with long-lasting effects
LD and IILD	ε-phthalaimido-peroxy-hexaoic acid (PAP) used as bleaching agent at max concentration of 0,6 g/kg of laundry	H400 Very toxic to aquatic life
		H412 Harmful to aquatic life with long-lasting effects
IILD	Peracetic acid/hydrogen peroxide used as bleaching agent	H400 Very toxic to aquatic life
		H410 Very toxic to aquatic life with long-lasting effects
		H412 Harmful to aquatic life with long-lasting effects
(*) Including stabilisers and other auxiliary substances in the preparations (**) In concentrations lower than 0,2 % in the raw material as long as the total concentration in the final product is lower than 0,10 %.		

Assessment and verification:

The applicant shall demonstrate compliance with this criterion for the final product and for any ingoing substance present at a concentration greater than 0,010% weight by weight in the final product. The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, or SDS confirming that none of these substances meets the criteria for classification with one or more of the hazard statements listed Table 18 in the form(s) and physical state(s) in which they are present in the product.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under points (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply.

The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, or SDS confirming the presence of ingoing substances that fulfil the derogation conditions.

ⓘ **Key points**

Sub-criterion: b. Hazardous substances

- *How to prove that a product and the ingoing substances are not classified and labelled with any of the hazard classification listed in Table 18?* Section 3.3.5.4.
- *How to submit a new derogation?* Section 3.3.5.5.

3.3.5.4 Guidance to prove the non-classification of a product and the ingoing substances according to the sub-criterion of "Hazardous substances"

⚠ **The sub-criterion "Hazardous substances" shall apply to all ingoing substances (including fragrances, colouring agents and preservatives) when their concentration is equal to or higher than 0,010% weight by weight.**

When information about the ingredients of a mixture is available, the ingredients of this mixture should comply with the criterion. I.e. when a classified mixture is present at a concentration above 0,010%, it can be used as long as its single classified ingredients are present in a concentration below 0,010% in the final product.

In practice this means that the non-presence of classified (and non-derogated substances) should be evaluated on a substance by substance basis.

Where stricter, the generic or specific concentration limits determined in accordance with Article 10 of Regulation (EC) No 1272/2008 shall take precedence.

The applicant shall provide the Competent Body with a signed declaration of compliance together with the following technical information related to the form(s) and physical state(s) of the ingoing substances as present in the product, in order to support the declaration of non-classification for the hazard classification categories in Table 18:

(i) For substances that have a harmonised classification or are self-classified: Safety Data Sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to REACH;

(ii) For substances that have not been registered under REACH and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to REACH;

(iii) For substances that have been registered under REACH and which do not meet the requirements for the CLP classification: Information based on the REACH registration dossier confirming the non- classified status of the substance;

This sub-criterion does not apply to ingoing substances listed in Annexes IV and V to Regulation (EC) No 1907/2006 which are covered by Article 2(7)(a) and (b) of the same Regulation.

If an ingoing substance is listed in Annex IV or specified in Annex V, a signed declaration of compliance to this effect shall be provided to the Competent Body by the applicant.

IILD only has a special derogation from the sub-criterion (b)(i)

Products containing **peracetic acid** and **hydrogen peroxide** used as bleaching agent. Such products may be classified and labelled as hazardous to the aquatic environment [Chronic Category 1 (H410), Chronic Category 2 (H411) or Chronic Category 3 (H412)], if the classification and labelling is due to the presence of these substances.

Derogated substances (listed in Table 18) are exempted from point (b)(ii) of this sub-criterion.

For confirming the presence of ingoing substances that fulfil the derogation conditions, the applicant shall provide to the Competent Body with a signed declaration of compliance supported by declaration from suppliers, if appropriate, or SDS of these derogated ingoing substances.

3.3.5.5 Guidance to submit a new derogation

If the applicant identifies a need for a new derogation, they should submit a formal request after checking that the classified substance identified meets the pre-requisites set in the Regulation 66/2010:

- it is not technically feasible to substitute the substance as such, or via the use of alternative materials or designs,
- or a product containing that substance has a significantly higher overall environment performance compared with other goods of the same category.

In such a situation, the applicant should contact their respective Competent Body who will provide them with the contact details to the JRC officer responsible for the product group. The applicant should also fill in a derogation request form, which is included in Section 4.4.

Sub-criterion (c): Substances of very high concern (SVHCs)

The sub-criterion "Substances of very high concern" shall apply to all ingoing substances regardless of their concentration in the product.

Reference to the latest list of SVHCs shall be made on the date of the application.

The updated list of SVHCs is available on the European Chemicals Agency website:

http://echa.europa.eu/web/guest/candidate-list-table.

Sub-criterion (d): Fragrances

The sub-criterion "Fragrances" applies to all fragrances included in a product regardless of their concentration (for all product groups beside IIDD).

IIDD shall not contain any fragrances.

Sub-criterion (e): Preservatives

Unified criterion text from the different Commission Decisions:

e. Preservatives

(i) The product may only include preservatives in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants which may also have biocidal properties.

Definitions

- In relation to the ***biocidal properties***, and according to the Regulation (EU) 528/2012 (BPR), the following definitions should apply:
  - ***Biocidal product*** means any substance or mixture, in the form in which it is supplied to the user, consisting of, containing or generating one or more active substances, with the intention of destroying, deterring, rendering harmless, preventing the action of, or otherwise exerting a controlling effect on, any harmful organism by any means other than mere physical or mechanical action, any substance or mixture, generated from substances or mixtures which do not themselves fall under the first indent, to be used with the intention of destroying, deterring, rendering harmless, preventing the action of, or otherwise exerting a controlling effect on, any harmful organism by any means other than mere physical or mechanical action.
  - ***Active substance*** means a substance or a micro-organism that has an action on or against harmful organisms.

(ii) The product may contain preservatives provided that they are not bio-accumulating. A preservative is considered to be not bio-accumulating if the BCF is < 100 or log K_{ow} is < 3,0. If both the BCF and log K_{ow} values are available, the highest measured BCF value shall be used.

(iii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial or disinfecting effect.

Assessment and verification:

The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, along with the SDS of any preservative added and information on its BCF or log K_{ow} values. The applicant shall also provide artwork of the packaging.

ⓘ Key points

Sub-criterion: e. Preservatives

- *How to prove that a product contains the correct amount of preservatives?* Section 3.3.5.6.

3.3.5.6 Guidance to prove that the product contains the correct amount of preservatives

⚠ **The sub-criterion "Preservatives" shall apply to all preservatives included in a product regardless their concentration.**

The preservatives included in a detergent or cleaning product shall be used only to preserve it, i.e. to prevent product degradation caused by micro-organisms and to protect it from accidental contamination by the consumer during use. The concentration of preservative that is effective for preservation purposes is usually indicated on the preservative's technical product sheet, this can be used as proof of compliance. In addition, during the product development the manufacturers ensure the effects of preservatives by so-called germ-contamination tests during which the products are inoculated with standard germs and measures regarding their decrease are taken in given intervals. Results of such tests can also be provided as a proof of compliance.

It is prohibited to include any communication on the packaging indicating that the product has an antimicrobial or disinfecting effect. The applicant shall check if these preservatives are not bio-accumulating in order to be able of including them into the product formulation. A preservative is not considered bio-accumulating if the BCF is < 100 or log K_{ow} is < 3,0. For more information on bioaccumulation see definitions in section 3.3.3.

If both BCF and K_{ow} values are available, the highest measured BCF value shall be used.

Sub-criterion (f): Colouring agents

The sub-criterion "Colouring agents" shall apply to all colouring agents included in a product regardless their concentration.

If both BCF and K_{ow} values are available, the highest measured BCF value shall be used.

If a colouring agent is approved for use in food, it is not necessary to submit documentation of bio-accumulation potential, just provide the proper documentation to the CB to ensure that the colouring agent is approved for food use.

Sub-criterion (g): Enzymes

Sub-criterion (h): Micro-organisms (only for HSC for professional use)

Unified criterion text from the different Commission Decisions:

h. Micro-organisms (only for HSC for professional use)

(i) Identification: all intentionally added micro-organisms shall have an American Type Culture Collection (ATCC) number, belong to a collection of an International Depository Authority (IDA) or have had their DNA identified in accordance with a "Strain identification protocol" (using 16S ribosomal DNA sequencing or an equivalent method).

(ii) Safety: all intentionally added micro-organisms shall belong to both of the following:

- Risk Group I as defined by Directive 2000/54/EC[10] – biological agents at work;
- The Qualified Presumption of Safety (QPS) list issued by the European Food Safety Authority (EFSA).

(iii) Absence of contaminants: pathogenic micro-organisms, as defined below, shall not be in any of the strains included in the finished product when screened using the indicated test methods or equivalent:

- E. Coli, test method ISO 16649-3:2005;
- Streptococcus (Enterococcus), test method ISO 21528-1:2004;
- Staphylococcus aureus, test method ISO 6888-1;
- Bacillus cereus, test method ISO 7932:2004 or ISO 21871;
- Salmonella, test method ISO6579:2002 or ISO 19250.

(iv) All intentionally added micro-organisms shall not be genetically modified micro-organisms (GMMs).

(v) Antibiotic susceptibility: all intentionally added micro-organisms shall be, with the exception of intrinsic resistance, susceptible to each of the five major antibiotic classes (aminoglycoside, macrolide, beta-lactam, tetracycline and fluoroquinolones) in accordance with the EUCAST disk diffusion method or equivalent.

(vi) Microbial count: products in their in-use form shall have a standard plate count equal to or greater than $1x10^5$ colony-forming units (CFU) per ml in accordance with ISO 4833-1:2014.

(vii) Shelf life: the minimum shelf life of the product shall not be lower than 24 months and the microbial count shall not decrease by more than 10 % every 12 months in accordance with ISO 4833-1:2014.

(viii) Fitness for use: the product shall fulfil all the requirements set out in Criterion Fitness for Use and all claims made by the manufacturer on the actions of the micro-organisms contained in the product shall be documented through third-party testing.

(ix) Claims: it is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial or disinfecting effect.

(x) User information: the product label shall include the following information:

- that the product contains micro-organisms;
- that the product shall not be used with a spray trigger mechanism;
- that the product should not be used on surfaces in contact with food;
- an indication of the shelf life of the product.

Assessment and verification:

10 Directive (EC) No 2000/54 of 18 September 2000 on the protection of workers from risks related to exposure to biological agents at work (seventh individual directive within the meaning of Article 16(1) of Directive 89/391/EEC) (OJ L 262, 17.10.2000, p. 21–45).

The applicant shall provide:

(i) The name (to the strain) and identification of all micro-organisms contained in the product with ATCC or IDA numbers or documentation on DNA identification.

(ii) Documentation demonstrating that all micro-organisms belong to Risk Group I and the QPS list.

(iii) Test documentation demonstrating that the pathogenic micro-organisms are not present in the product.

(iv) Documentation demonstrating that all micro-organisms are not GMMs.

(v) Test documentation demonstrating that all micro-organisms are, with the exception of intrinsic resistance, susceptible to each of the five major antibiotic classes indicated.

(vi) Test documentation of CFU per ml of in-use solution (for undiluted products, the dilution ratio recommended for 'normal' cleaning shall be used).

(vii) Test documentation of CFU per ml of in-use solution every 12 months for a product stored until the end of its shelf life.

(viii) Test results from a third-party laboratory demonstrating the claimed actions of the micro-organisms and artwork of the packaging or a copy of the product's label highlighting any claims made on the actions of the micro-organisms.

(ix) and **(x)** artwork of the packaging or a copy of the product's label.

Definitions

- ***American Type Culture Collection (ATCC)*** is the premier global biological materials resource and standards organization whose mission focuses on the acquisition, authentication, production, preservation, development, and distribution of standard reference microorganisms, cell lines, and other materials. While maintaining traditional collection materials, ATCC develops high quality products, standards, and services to support scientific research and breakthroughs that improve the health of global populations.
- ***International Depositary Authority (IDA).*** An institution acquires the status of "international depositary authority" if the contracting State in which the institute is located, furnishes to the Director General of WIPO of assurances to the effect that the institution complies and will continue to comply with certain requirements of the Budapest Treaty.
- ***"Strain identification protocol"*** means the method by which microbial strains have been identified by DNA sequencing (full length 1500+1 base pair analysis) and have been named following the naming conventions set in place by the International Code for Nomenclature of Bacteria (ICNB). This protocol shall use the program CLUSTALX (or any other suitable multiple alignment tool such as CLUSTALW, MEGA, PHYLIP) to align the sequence to other closely related species indicated by an initial Basic Local Alignment Search Tool (BLAST) analysis of the sequence. A BLAST search or analysis compares a query sequence with a library or database of sequences, and identifies library sequences that resemble the query sequence above a certain threshold.

- ***Risk Group I (micro-organisms)*** according to Directive 2000/54/EC, means micro-organisms that are unlikely to cause human disease.
- ***Qualified Presumption of Safety (QPS)*** is a generic risk assessment approach applied by the European Food Safety Authority (EFSA) to notify biological agents aiming at simplifying risk assessments across different scientific Panels and Units.
- ***European Food Safety Authority (EFSA)*** is a European agency funded by the European Union that operates independently of the European legislative and executive institutions (Commission, Council and Parliament) and EU Member States. It was set up in 2002 following a series of food crises in the late 1990s to be a source of scientific advice and communication on risks associated with the food chain. The agency was legally established by the EU under the General Food Law - Regulation 178/2002. The General Food Law created a European food safety system in which responsibility for risk assessment (science) and for risk management (policy) are kept separate. EFSA is responsible for the former area, and also has a duty to communicate its scientific findings to the public.
- ***Pathogenic micro-organisms*** are any microorganism capable of injuring its host, e.g., by competing with it for metabolic resources, destroying its cells or tissues, or secreting toxins.
- ***European Committee on antimicrobial susceptibility testing (EUCAST)*** is a standing committee jointly organized by ESCMID, ECDC and European national breakpoint committees. EUCAST deals with breakpoints and technical aspects of phenotypic in vitro antimicrobial susceptibility testing and functions as the breakpoint committee of EMA and ECDC. EUCAST does not deal with antibiotic policies, surveillance or containment of resistance or infection control.
- ***EUCAST disk diffusion method.*** Disk diffusion is one of the oldest approaches to antimicrobial susceptibility testing and remains one of the most widely used antimicrobial susceptibility testing methods in routine clinical laboratories. It is suitable for testing the majority of bacterial pathogens, including the more common fastidious bacteria, is versatile in the range of antimicrobial agents that can be tested and requires no special equipment. In common with several other disk diffusion techniques, the EUCAST method is a standardised method based on the principles defined in the report of the International Collaborative Study of Antimicrobial Susceptibility Testing, 1972, and the experience of expert groups worldwide.

The sub-criterion "Micro-organisms" only applies to HSC products for professional use where micro-organisms are intentionally added.

The sub-criterion "Micro-organisms" shall apply to all micro-organisms included in the HSC product for professional use if their concentration are equal to or higher than 0,010% weight by weight.

Sub-criterion (i): Corrosive properties (only for HDD)

3.3.6 Criterion: Packaging

This criterion applies to all the product categories included in this manual.

Please, check which sub-criteria are applicable to your product category:

Criterion Packaging						
Sub-criteria / **Product type**	**LD**	**IILD**	**DD**	**IIDD**	**HSC**	**HDD**
a. Products sold in spray bottles					X	
b. Packaging take-back systems		X		X	X	
c. Weight/utility ratio (WUR)	X	X[1]	X	X[1]	X[1]	X
d. Design for recycling	X	X[1]	X	X[1]	X[1]	X

X[1]: if the product accomplishes the sub-criteria (b), that product is exempted from the requirements set out in sub-criteria (c) and (d).

Definitions

- ***Primary packaging*** is the layer of packaging that comes in direct contact with the product. It is designed around the specific dimensions of the product. The main role of primary packaging is to protect the product from damage during storage and transportation. Often, products sit in storage for extended periods, and the primary packaging ensures that the product is not exposed to the external environment. Easy handling for consumers is another facet of primary packaging. Bottles, clamshells, shrink-wrap, paperboard and blister packs are common primary packaging.
- ***Secondary packaging*** is packaging conceived so as to constitute at the point of purchase a grouping of a certain number of sales units whether the latter is sold as such to the final user or consumer or whether it serves only as a means to replenish the shelves at the point of sale; it can be removed from the product without affecting its characteristics.
- ***Tertiary packaging*** is packaging conceived so as to facilitate handling and transport of a number of sales units or grouped packaging in order to prevent physical handling and transport damage. Transport packaging does not include road, rail, ship and air containers.
- ***Recycled material***: 'recycling' means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.
- ***Post-consumer recycled material***: This is material recycled from post-consumption material, which has been collected from packaging manufacturers at the distribution stage or at the consumer stage.
- ***Weight/utility ratio (WUR)*** means the amount of packaging which is used for delivering a dose of the detergent or cleaning product to the consumer. Reuse and use of recycled material is meriting in this system of calculation.
- ***Take-back system*** is a scheme in which producers and/or stores that sell the product are responsible for taking the product packaging back after clients are done with it.
- ***Undiluted products*** are those which need to be diluted before use.
- ***Ready to use products (RTU)*** are those which can be used directly, without a previous dilution.

Sub-criterion (a): Products sold in spray bottles (criterion only applicable to HSC)

a. Products sold in spray bottles (criterion only applicable to HSC)

Sprays containing propellants shall not be used. Spray bottles shall be refillable and reusable.

Assessment and verification

The applicant shall provide a signed declaration of compliance along with relevant documentation describing or demonstrating how the spray bottles that are part of the packaging can be refilled.

ⓘ Key points

- *How to demonstrate that spray bottles can be refilled and reused?* Section 3.3.6.1

3.3.6.1 Guidance to demonstrate that the spray bottles that are part of the packaging can be refilled

This criterion is only applicable for hard surface cleaning products.

The applicant shall provide evidence that the spray bottles can be refilled and reused (i.e. the pump mechanism easily separates from and reconnects to the bottle). This can be done, for example, by providing a sample of the spray bottle to the Competent Body or by providing photos of how the spray trigger can be removed from the bottle and then reattached.

Unlike in the previous version of the criteria, it is not necessary to provide proof that refills of the product can be found on the market.

Sub-criterion (b): Packaging take-back systems (criterion only applicable to HSC, IILD and IIDD)

b. Packaging take-back systems (criterion only applicable to HSC, IILD and IIDD)

If the product is delivered in packaging that is part of a take-back system for a product, that product is exempted from the requirements set out in points (c) and (d) of Criterion Packaging.

Assessment and verification

The applicant shall provide a signed declaration of compliance along with relevant documentation describing or demonstrating that a take-back system has been put in place for the packaging.

ⓘ Key points

- *How to demonstrate that a take-back system has been put in place for the packaging?* Section 3.3.6.2

3.3.6.2 Guidance to demonstrate that a take-back system has been put in place for the packaging

⚠ This criterion is only applicable in the case of hard surface cleaners, IILD laundry and IIDD.

The documentation needed to demonstrate the existence of a take-back system for the packaging may be, for example, a copy of the adherence to a take-back agreement for each country where the product is to be sold or agreements with clients about the take-back of their packaging.

Sub-criterion (c): Weight/utility ratio (WUR)

Unified criterion text and values from the different Commission Decisions:

c. Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the reference dosage. Primary packaging made of more than 80 % recycled materials is exempted from this requirement.

Table 20. WUR limits for LD, DD, HSC, HDD

Product Type		WUR
LD (g/kg of laundry)	*Powder laundry detergents*	1,2
	Laundry detergents in tablets or capsules	1,2
	Liquid/gel laundry detergents (not in tables or capsules)	1,4
	Stain remover (pre-treatment only)	1,2
DD (g/wash)	*Dishwasher detergents*	2,4
	Rinse aids	1,5
HSC (g/l of cleaning solution)	*Undiluted products*	15
	RTU products	150
	RTU products in bottles with trigger sprays	200
HDD (g/l of washing water)	*Hand dishwashing detergent*	0,6

Table 21. WUR limits for IILD and IIDD

Product type \ Water hardness		Soft <1,5 mmol CaCO3/l	Medium <1,5-2,5 mmol CaCO3/l	Hard >2,5 mmol CaCO3/l
IILD (g/kg of laundry)	Powders	1,5	2,0	2,5
	Liquids	2,0	2,5	3,0

IIDD (g/l of washing solution)	**Powders**	0,8	1,4	2,0
	Liquids	1,0	1,8	2,5

Assessment and verification:

The applicant shall provide the calculation of the WUR of the product. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.

The WUR is calculated as follows:

$$WUR = \sum((W_i + U_i)/(D_i * R_i))$$

Where:
Wi: weight (g) of the primary packaging (i);
Ui: weight (g) of non-post-consumer recycled packaging in the primary packaging (i). Ui = Wi unless the applicant can prove otherwise;
Di: number of reference doses contained in the primary packaging (i). In the case of RTU products (only for HSC), Di = product volume (in litres);
Ri: refill index. Ri = 1 (packaging is not reused for the same purpose) or Ri = 2 (if the applicant can document that the packaging component can be reused for the same purpose and they sell refills).

The applicant shall provide a signed declaration of compliance confirming the content of post-consumer recycled material, along with relevant documentation. Packaging is regarded as post-consumer recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage.

ⓘ Key points

- *How to calculate the WUR of a product?* Section 3.3.6.3
- *How to prove the amount (%) of recycled material in the packaging?* Section 0

⚠ Products with packaging that is part of a take-back system are exempt from sub-criterion c.

3.3.6.3 Guidance to calculate the WUR of a product

⚠ The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging

Definitions

Primary packaging

(a) for single doses in a wrapper that is intended to be removed before use, the individual dose wrapping and the packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase, including label where applicable;

(b) for all other types of products, packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase;

Includes:

- Material of the container
- Cap
- Dosing aid with the additional function of packaging (like a cap)
- Label
- Trigger
- Cardboard (if secondary packaging, see examples 4c, 9 below)

Does not include:

- Dosing aid only with the function of dosing aid
- Cardboard (if transport packaging, see examples 5, 6, 7, 8 below)

Primary packaging made of more than 80 % recycled materials is exempted from the calculation of the WUR.

Interpretation: If >80% of all (in sum) primary packaging is made from recycled materials it is exempted from this requirement.

The applicant may use the calculation sheet available on the EU Ecolabel website to calculate the WUR of the primary packaging.

In order to clarify the calculation of the WUR and Ri, some examples are provided below.

Example 1. One cardboard with 36 Dishwasher tabs as smallest sales unit. Each tab has a weight of 18g. (36x0,018 kg=0,648 kg). Each tab is in a foil (weight 0,5 g) which has to be removed before use.

Correct calculation:

Interpretation: WUR exceeds the limit. Product failed (even the cardboard is made from 80% recycling material). (Excel sheets calculates the recycling content to 63,2%)

Description of the packaging:	Cardboard with 36 Tabs
Exception for GNV? (Select)	
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):	0,648

Part (i) of the primary packaging (please specify part)	Weight of this part (i) in g (Wi)	thereof virgin material in g (Ui)	Recycling figure (ri)	(Di)	=(Wi + Ui) / (Di x ri)
cardboard	75,00	15,00	1,0	36,0	2,50
foil (36 x 0,5g)	18,00	18,00	1,0	36,0	1,00
label	2,00	2,00	1,0	36,0	0,11
			Sum:	=WUR	3,6
				Limit	2,4
Recycled materials in primary packaging:	63,2%			Result	not ok

Wrong calculation:
Interpretation: cardboard made from 80% recycling material is excluded from calculation. WUR < limit. Product packaging fulfills the WUR criterion

Description of the packaging:	Cardboard with 36 Tabs
Exception for GNV? (Select)	
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):	0,648

Part (i) of the primary packaging (please specify part)	Weight of this part (i) in g (Wi)	thereof virgin material in g (Ui)	Recycling figure (ri)	(Di)	=(Wi + Ui) / (Di x ri)
foil (36 x 0,5g)	18,00	18,00	1,0	36,0	1,00
label	2,00	2,00	1,0	36,0	0,11
			1,0		
			Sum:	=WUR	1,1
				Limit	2,4
Recycled materials in primary packaging:	0,0%			Result	ok

Example 2. 1 l bottle of undiluted APC, dosage 10ml/l as smallest sales unit to final consumer. Bottle contains 50% recycling material. WUR < limit. Product packaging fulfils the WUR criterion

Description of the packaging:	1 l bottle
Exception for GNV? (Select)	
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):	1

Part (i) of the primary packaging (please specify part)	Weight of this part (i) in g (Wi)	thereof virgin material in g (Ui)	Recycling figure (ri)	(Di)	=(Wi + Ui) / (Di x ri)
bottle	47,00	23,50	1,0	100,0	0,71
cap	6,00	6,00	1,0	100,0	0,12
label	2,00	2,00	1,0	100,0	0,04
			Sum:	=WUR	0,9
				Limit	15,0
Recycled materials in primary packaging:		42,7%		Result	ok

Example 3. 500 ml kitchen cleaner (RTU-trigger) as smallest sales unit. WUR exceeds the limit. Product failed even the limit is higher for RTU products sold in bottles with trigger sprays.

Description of the packaging:	500 ml Trigger
Exception for GNV? (Select)	Only for HSC (RTU): trigger spray
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):	0,5

Part (i) of the primary packaging (please specify part)	Weight of this part (i) in g (Wi)	thereof virgin material in g (Ui)	Recycling figure (ri)	(Di)	=(Wi + Ui) / (Di x ri)
bottle	32,00	32,00	1,0	0,5	128,00
trigger	26,00	26,00	1,0	0,5	104,00
label	4,00	4,00	1,0	0,5	16,00
			Sum:	=WUR	248,0
				Limit	200,0
Recycled materials in primary packaging:		0,0%		Result	not ok

Example 4a. 500 ml HSC (RTU-trigger) as smallest sales unit. Refill is offered from applicant separately (ri=2). WUR < limit. Product packaging fulfils the WUR criterion.

Description of the packaging:	500 ml Trigger (Refill sold separatly)
Exception for GNV? (Select)	Only for HSC (RTU): trigger spray
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):	0,5

Part (i) of the primary packaging (please specify part)	Weight of this part (i) in g (Wi)	thereof virgin material in g (Ui)	Recycling figure (ri)	(Di)	=(Wi + Ui) / (Di x ri)
bottle	32,00	32,00	2,0	0,5	64,00
trigger	26,00	26,00	2,0	0,5	52,00
label	4,00	4,00	2,0	0,5	8,00
			Sum:	=WUR	124,0
				Limit	200,0
Recycled materials in primary packaging:		0,0%		Result	ok

Example 4b. 5l HSC-RTU refill is sold separately. WUR < limit. Product packaging fulfils the WUR criterion.

Description of the packaging:	5l Refill
Exception for GNV? (Select)	
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):	5

Part (i) of the primary packaging (please specify part)	Weight of this part (i) in g (Wi)	thereof virgin material in g (Ui)	Recycling figure (ri)	(Di)	=(Wi + Ui) / (Di x ri)
Container	150,00	150,00	1,0	5,0	60,00
Cap	5,00	5,00	1,0	5,0	2,00
Label	2,00	2,00	1,0	5,0	0,80
			Sum:	=WUR	62,8
				Limit	150,0
Recycled materials in primary packaging:		0,0%		Result	ok

Example 4c.

- **2 refill capsules sold separately from the HSC trigger.**
- **2 x 50ml to prepare 2 x 500ml RTU. (reference dosage = 100)**
- **Separate Excel file necessary! Exception for WUR possible. WUR < limit. Product packaging fulfils the WUR criterion.**

Description of the packaging:	2 capsules à 50 ml
Exception for GNV? (Select)	Only for HSC: Undiluted product for the sole purpose of refilling trigger sprays
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):	0,1

Part (i) of the primary packaging (please specify part)	Weight of this part (i) in g (Wi)	thereof virgin material in g (Ui)	Recycling figure (ri)	(Di)	=(Wi + Ui) / (Di x ri)
Cardboard	20,00	10,00	1,0	1,0	30,00
2 capsules	10,00	10,00	1,0	1,0	20,00
			1,0		
			Sum:	=WUR	50,0
				Limit	150,0
Recycled materials in primary packaging:		33,3%		Result	ok

Example 5. 6 bottles (à 1l) of undiluted HSC, dosage 10ml/l as smallest sales unit (as B2B product). No secondary packaging, just transport packaging. Calculation is the same as for Example 2, cardboard not to be included in WUR calculation.

Example 6. 6 x 750 ml bottles of HSC RTU in a cardboard with one trigger as smallest sales unit. Cardboard not to be included in WUR calculation. All bottles are trigger.

- Summarize all volumes (4x0,75l = 4,5l) and weights (6 bottles á 40g = 240g). ri= 1 for bottles, caps and label; ri=2 for trigger.
- WUR limit = 200 (all bottles are intended for a trigger and a trigger is delivered in the packaging).
- WUR < limit. Product packaging fulfils the WUR criterion.

Description of the packaging:	6 x 750ml bottles RTU in a cardboard with one trigger
Exception for WUR? (Select)	Only for HSC (RTU): trigger spray
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):	4,5

Part (i) of the primary packaging (please specify part)	Weight of this part (i) in g (Wi)	thereof virgin material in g (Ui)	Recycling figure (ri)	(Di)	=(Wi + Ui) / (Di x ri)
6 bottles	240,00	240,00	1,0	4,5	106,67
6 label	20,00	20,00	1,0	4,5	8,89
6 caps	30,00	30,00	1,0	4,5	13,33
1 trigger	25,00	25,00	2,0	4,5	5,56
			Sum:	=WUR	134,4
				Limit	200,0
Recycled materials in primary packaging:		0,0%		Result	ok

Example 7. HSC RTU trigger spray (2 x 750ml), one sold with trigger and one sold without trigger in one sales unit as smallest sales unit. Cardboard packaging: only transport packaging.

- Summarize all volumes (2x0,75l = 1,5l) and weights (2 bottles á 40g = 80g). ri= 1 for bottles, cap and labels; ri=2 for trigger.
- WUR limit = 200 (all bottles are intended for a trigger and a trigger is delivered in the packaging).
- WUR < limit. Product packaging fulfils the WUR criterion.

Description of the packaging:	2 x 750ml bottles RTU in a cardboard with one trigger
Exception for WUR? (Select)	Only for HSC (RTU): trigger spray
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):	1,5

Part (i) of the primary packaging (please specify part)	Weight of this part (i) in g (Wi)	thereof virgin material in g (Ui)	Recycling figure (ri)	(Di)	=(Wi + Ui) / (Di x ri)
2 bottles	80,00	80,00	1,0	1,5	106,67
2 label	4,00	4,00	1,0	1,5	5,33
1 cap	3,00	3,00	1,0	1,5	4,00
1 trigger	20,00	20,00	2,0	1,5	13,33
			Sum:	=WUR	129,3
				Limit	200,0
Recycled materials in primary packaging:		0,0%		Result	ok

Example 8. HSC sold as a set of a 5l RTU-bottle and a 125ml undiluted bottle (reference dosage = 25ml/l) (refill for 5 l RTU) sold in one sales unit. Cardboard packaging: only transport packaging.

"If a product can be found both in RTU and undiluted form and both forms are sold as part of a single lot (e.g. one bottle of RTU product and a refill bottle of undiluted product), both types of products shall meet the requirements set out in all the criteria for their respective types."

Sold as part of a single lot: = one sales unit!

Example 8a.

- Calculation of 5l RTU-bottle. ri = 2 due to refill
- WUR < limit. Product packaging fulfils the WUR criterion.

Description of the packaging:		**5l RTU-bottle (with refill)**			
Exception for WUR? (Select)					
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):		**5**			
Part (i) of the primary packaging (please specify part)	**Weight of this part (i) in g (Wi)**	**thereof virgin material in g (Ui)**	**Recycling figure (ri)**	**(Di)**	**=(Wi + Ui) / (Di x ri)**
Container	150,00	150,00	2,0	5,0	30,00
Cap	5,00	5,00	2,0	5,0	1,00
label	2,00	2,00	2,0	5,0	0,40
			Sum:	**=WUR**	**31,4**
				Limit	150,0
Recycled materials in primary packaging:		0,0%		**Result**	**ok**

Example 8a.

- Calculation of 125ml undiluted bottle (25ml/l) (refill for 5 l RTU)
- WUR < limit. Product packaging fulfills the WUR criterion.

Description of the packaging:		**125ml bottle, refill for 5l RTU-bottle**			
Exception for WUR? (Select)					
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):		**0,125**			
Part (i) of the primary packaging (please specify part)	**Weight of this part (i) in g (Wi)**	**thereof virgin material in g (Ui)**	**Recycling figure (ri)**	**(Di)**	**=(Wi + Ui) / (Di x ri)**
bottle	21,00	21,00	1,0	5,0	8,40
cap	2,00	2,00	1,0	5,0	0,80
label	0,80	0,80	1,0	5,0	0,32
			Sum:	**=WUR**	**9,5**
				Limit	15,0
Recycled materials in primary packaging:		0,0%		**Result**	**ok**

Both products in the sales unit fulfil the WUR criteria. Therefore the whole packaging fulfils the

packaging criteria.

Example 9. HSC sold as a set of a 1l RTU Trigger-bottle and a 100ml undiluted bottle (reference dosage 100ml/l) as refill sold in one sales unit. Cardboard packaging: secondary packaging.

Example 9a.

- Calculation 1l RTU Trigger-bottle: ri=2 for bottle and trigger due to refill.
- Secondary packaging (Cardboard with 80% recycling material): 50% included in calculation of RTU bottle. ri=1 (no re-use)
- WUR < limit. This part of the product packaging fulfils the WUR.

Description of the packaging:		**1l RTU-Trigger (with refill)**			
Exception for WUR? (Select)		**Only for HSC (RTU): trigger spray**			
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):		**1**			
Part (i) of the primary packaging (please specify part)	**Weight of this part (i) in g (Wi)**	**thereof virgin material in g (Ui)**	**Recycling figure (ri)**	**(Di)**	**=(Wi + Ui) / (Di x ri)**
Bottle	40,00	40,00	2,0	1,0	40,00
Trigger	20,00	20,00	2,0	1,0	20,00
Label	2,00	2,00	2,0	1,0	2,00
Cardboard (50%)	100,00	20,00	1,0	1,0	120,00
			Sum:	**=WUR**	**182,0**
				Limit	200,0
Recycled materials in primary packaging:		49,4%		**Result**	**ok**

Example 9b.

- Calculation 100ml undiluted bottle (reference dosage 100ml/l)
- Secondary packaging (Cardboard with 80% recycling material): 50% included in the calculation.
- WUR < limit. This part of the product packaging fulfills the WUR.

Description of the packaging:		100ml bottle undiluted HSC as refill			
Exception for WUR? (Select)		Only for HSC: Undiluted product for the sole purpose of refilling trigger sprays			
Volume of the product in the primary packaging (if reference dosage in ml in l, if reference dosage in g in kg):		0,1			
Part (i) of the primary packaging (please specify part)	Weight of this part (i) in g (Wi)	thereof virgin material in g (Ui)	Recycling figure (ri)	(Di)	=(Wi + Ui) / (Di x ri)
Bottle	14,00	14,00	1,0	1,0	28,00
Label	1,00	1,00	1,0	1,0	2,00
Cardboard (50%)	100,00	20,00	1,0	1,0	120,00
			Sum:	=WUR	150,0
				Limit	150,0
Recycled materials in primary packaging:		69,6%		Result	ok

Both products in the sales unit fulfil the WUR criteria. Therefore the whole packaging fulfills the packaging criteria.

3.3.6.4 Guidance to prove the amount (%) of recycled material of the packaging

The applicant shall provide to the Competent Body a signed declaration of compliance from the packaging manufacturer regarding the content of post-consumer recycled material in the primary packaging. The applicant shall also provide proof that the materials used for the packaging do indeed come from recycled sources – this can be done through a balance sheet or other bookkeeping methods.

Sub-criterion (d): Design for recycling

d. Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recyclate. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination, the materials and components listed in the Table below. Pump mechanisms (including in sprays) are exempted from this requirement.

Table 22. Materials and components excluded from packaging elements

Packaging element	Excluded materials and components*

Label or sleeve	- PS label or sleeve in combination with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Any other plastic materials for sleeves/labels with a density > 1 g/cm3 used with a PET bottle - Any other plastic materials for sleeves/labels with a density < 1 g/cm3 used with a PP or HDPE bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)
Closure	- PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures or closure material with a density > 1 g/cm3 in combination with a PET bottle - Closures made of metal, glass or EVA which are not easily separable from the bottle - Closures made of silicone. Silicone closures with a density < 1 g/cm3 in combination with a PET bottle and silicone closures with a density > 1g/cm3 in combination with PEHD or PP bottle are exempted. - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	Polyamide, functional polyolefins, metallised and light-blocking barriers
* EVA – Ethylene Vinyl Acetate, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride	

Assessment and verification

The applicant shall provide a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, as appropriate, along with photos or technical drawings of the primary packaging.

ⓘ Key points

- *How to report the materials composition of the packaging?* Section 3.3.6.5

3.3.6.5 Guidance to report the materials composition

⚠ **This criterion requires a list of the parts making up the primary packaging, i.e. the main container, label or sleeve, adhesives, closure and barrier coating and which materials they are made up of.**

⚠ **Photos or technical drawings of the primary packaging shall be provided to the Competent Body.**

⚠ **Please note that the combination of PP with HDPE, as well as the combinations of PE with LLDPE, LDPE, HDPE are allowed be used in the EU Ecolabel products.**

3.3.7 Criterion: Fitness for use

This criterion applies to all product categories included in this user manual.

Unified criterion text from the different Commission Decisions:

The product shall have a satisfactory wash or cleaning performance at the lowest temperature and dosage recommended by the manufacturer for the water hardness in accordance with:

Product categories	Protocol/Framework/Standard
LD	"EU Ecolabel protocol for testing laundry detergents" or "EU Ecolabel protocol for testing stain removers", as appropriate.
IILD	"Framework for performance testing for industrial and institutional laundry detergents"
DD	The most updated IKW standard test or the most updated standard EN 50242/EN 60436 as modified in "Framework performance test for dishwasher detergents"
IIDD	"Framework performance test for industrial and institutional dishwasher detergents"
HSC	"Framework for testing the performance of hard surface cleaners"
HDD	"Framework for the performance test for hand dishwashing detergents"

These protocols/frameworks/standards are available on the EU Ecolabel website.

Assessment and verification: the applicant shall provide documentation demonstrating that the product has been tested under the conditions specified in the protocol/framework/standard and that the results showed that the product achieved at least the minimum wash/cleaning performance required. The applicant shall also provide documentation demonstrating compliance with the laboratory requirements included in the relevant harmonized standards for testing and calibration laboratories, if appropriate.

An equivalent test performance may be used if equivalence has been assessed and accepted by the competent body.

ⓘ Key points

- *Where to find more information about the protocols/frameworks/standards described in the criterion text?* Section 3.3.7.1
- *How to demonstrate that the product achieves the minimum wash performance required?* Section 3.3.7.2
- *Explanatory notes related to specific protocols.* Section 3.3.7.3
    - *Laundry detergents (LD).* Section 3.3.7.3.1
    - *Industrial and institutional laundry detergents (IILD).* Section 3.3.7.3.2
    - *Dishwasher detergents (DD).* Section 3.3.7.3.3
    - *Hard surface cleaners (HSC).* Section 3.3.7.3.4

3.3.7.1 Guidance for obtaining more information about the protocols/frameworks described in the criterion text.

The full text of the protocols/frameworks described in the criterion text for each of the product categories included in this manual can be found in the following websites:

Product categories	**Website**
LD	http://ec.europa.eu/environment/ecolabel/documents/performance%20test%20LD.pdf
IILD	http://ec.europa.eu/environment/ecolabel/documents/performance%20test%20IILD.pdf
DD	http://ec.europa.eu/environment/ecolabel/documents/performance%20test%20DD.pdf
IIDD	http://ec.europa.eu/environment/ecolabel/documents/performance%20test%20IIDD.pdf
HSC	http://ec.europa.eu/environment/ecolabel/documents/performance%20test%20HSC.pdf
HDD	http://ec.europa.eu/environment/ecolabel/documents/performance%20test%20HDD.pdf

3.3.7.2 Guidance for demonstrating that the product achieves the minimum wash/cleaning performance required.

A spreadsheet for each product category is available on the EU Ecolabel website which shall be delivered to the Competent Body. It shall be sufficient proof for reporting the testing resutls and demonstrating that the product accomplishes with the minimum wash/cleaning performance required.

http://ec.europa.eu/environment/ecolabel/products-groups-and-criteria.html

Frameworks and protocols have been revised and changed in many aspects. Even if most of the products awarded with an Ecolabel would have to repeat the testing perfomance tests, there can be some products that do not. This should be decided case by case by the correspondent competent body. .

3.3.7.3 Explanatory notes related to the protocols

This section compiles a list of the most Frequently Asked Questions (FAQs) related to the protocols of some of the product categories.

3.3.7.3.1 Laundry detergents (LD)

- **When is mandatory to carry out the testing of colour care (colour maintenance and dye transfer inhibition)?**

The test performance related to colour care is only mandatory if the laundry detergent is a colour-safe detergent or whether it is a heavy-duty detergent or a light-duty detergent and colour care is claimed.

- **Can another reference machine be used as long as it has an equivalent programme to the one described in the protocol?**

The use of another reference machine is possible on the condition that the performance of the equivalent program shall be similar to the reference machine. Besides, it shall be used for both products (reference and test product), with the same washing cycle and the same spinning.

- **How should the similar performance been proved for a comparable programme of the washing machine?**

The similar performance of two equivalent programs from two different laundry machines can be proved by carrying out the performance test described in the protocol in both machines with the same laundry detergent and comparing the results. If the results of the reference machine are similar to the results of the other one, then this one can be used for the Ecolabel performance test.
If the comparison between two machines is not possible, all their program specifications shall be as similar as possible.

Table 23. Wash programmes specifications of programmable electronic Miele household washing machine

	Cotton wash program (at 30 °C, 20 °C[a], 15 °C[b])	Delicate program[n] (at 30 °C, 20 °C[a], 15 °C[b])
Duration main wash	50-70 min	30-40 min
Total program duration	100-120 min	55-65 min
Water quantity main wash	15±2 l	20±2 l
Total water quantity	55±5 l	64±5 l
Number of rinse cycles	3	3
Final spin speed	1200 rpm[11]	600 rpm

- **Can the ballast load be re-used from a test to another one?**

Yes, the ballast load can be re-used from a test to another as long as the ballast load is washed between the tests.

3.3.7.3.2 Industrial and institutional laundry detergents (IILD)

- **Can stains used in laundry detergents (non-II) be used in this test for IILD too?**

Stains used in laundry detergents can be used as long as they are representative for the kind of soil expected for the test product.

- **Is it mandatory to test the secondary effects of the product?**

Yes, the most relevant secondary effects for the test product shall be tested.

3.3.7.3.3 Dishwasher detergents (DD)

- **Which reference detergent and dosage shall be used?**

If the applicant shows compliance under the standard EN 50242/ EN 60436, the detergent that shall be used as reference detergent is that established in such standard, which is currently the Detergent B IEC 60436[12]. The dosage shall be that recommended by the manufacturer.

[11] Other spinning speed can be used but it should be at least 900 rpm
[12] Noteworthy that this standard is under revision at the time of writing this manual. The ongoing revision is proposing the Detergent Type D as the standard detergent. Once the new version of the standard EN 50242/ EN 60436 is published, the future new reference detergent (most probably type D) shall be used. The applicant shall use the detergent and reference dose in force at the time of application.

If the applicant applies the IKW test, due to the fact that this method does not include reference detergent, it is recommended that the competent body approves the selected reference detergent before performing the test. The dosage shall be the lowest one recommended by the manufacturer, or 20 g wheter the reference detergent used is IEC 60436 Type D. In the case of using the reference detergent Type B and the manufacturer recommendation is not indicated, the dosage used shall be also 20 g, as establishes the IKW test. If the reference detergent is a different one, it is again recommended that the competent body approves the selected dosage before performing the test.

The applicant shall use the most updated version of the IKW or the most updated standard EN 50242/ EN 60436.

- **In case that the product does not contain rinse aid, is it necessary to document its ability to dry the dishes?**

No, the drying effect is performed by the rinse aid, not by the detergent; therefore, if the product does not contain rinse aid there is no need of documenting such ability to dry the dishes.

- **Which conditions used to perform the test shall be described?**

It is necessary to describe the conditions of the program used to perform the test according to the most updated version of modified standard EN 5024/ EN 60436 or of the IKW test performance protocol.

3.3.7.3.4 Hard surface cleaners (HSC)

- **How should the product be tested, undiluted or diluted?**

All test products should be tested in their diluted form. But if the test is not successful and the product claims on the packaging/user instructions that it can also be used under its undiluted form, a second test should be performed under the undiluted conditions.

Example 1. An undiluted *All-purpose cleaner* which claims that can be used as an undiluted cleaner too.

In this case the product shall be tested:

1. Firstly, as a diluted all-purpose cleaner: Diluting the product in water as recommended for normal soil or normal use and dosing it also as recommended for normal soil or normal use. If a dosage or dilution interval is given, the lowest recommended dosage or highest recommended dilution must be used in the test.
2. if the previous test is not passed, then the product should be tested as an undiluted all-purpose cleaner: dosing the product directly without diluting it previously. The dosage shall be the indicated in the user instructions for that specific use.

Example 2. An undiluted *All-purpose cleaner* which does not claim to be used as an undiluted cleaner.

In this case the product shall be tested only in its diluted form: Diluting the product in water as recommended for normal soil or normal use and dosing it also as recommended for normal soil or normal use. If a dosage or dilution interval is given, the lowest recommended dosage or highest recommended dilution must be used in the test.

Example 3. A RTU *All-purpose cleaner*.

In this case the product shall be tested using the dosage recommended for normal soil or normal use. If no

recommended dosage is given, both the reference product and the test product shall be tested using the same dosage. If a dosage interval is given, the lowest recommended dosage must be used in the test.

- **How to treat the powder products or other solid forms?**

Powder products or other solid forms shall be tested in their "RTU form" and shall be prepared following the recommended dilution instructions.

- **How to select the reference product?**

The reference product may be either a marketed product or a generic formulation, and it shall belong to the same product category (designed for the same use and in the same dilution form). For further details, see *Section 1.2* of the protocol *'Framework for testing performance for hard surface cleaning products'*.

Example 1. In case of a product test for a **concentrated flooring cleaner**, which of the following products can be selected as the reference one?

- *Concentrated window cleaner*. ***No****; this product is not designed for the same use.*
- *Undiluted flooring cleaner*. ***No****; this product is not designed in the same dilution form.*
- *Concentrated flooring cleaner*. ***Yes****; this product is designed for the same purpose (flooring cleaner) and in the same dilution form (concentrated).*

Example 2. In the case of a product test for an undiluted ***all-purpose cleaner*** with a pH approximately equal to 7, which of the following products can be selected as the reference one?

- *Undiluted APC with a pH equal to 10*: **No**, this product is designed for the same use and the same dilution but it does not have the same pH
- *Diluted APC with a pH equal to 7* **No,** this product is designed for the same use and the same pH, but it does not have the same dilution ratio
- *Undiluted APC with a pH equal to 7:* **Yes**, this product is designed for the same use, the same dilution and does have the same pH

If the reference product is a marketed product, it can be selected regardless of sales volume. For example, it can even be another EU Ecolabel product with the same intended use or another product of the same company. However, whenever possible, and in order to prevent potential discrepancies during the application period, it is recommended to use a marketed product with big sales volume, not awarded with an EU Ecolabel, and from a different company than the test product.

- **Where to find the information about the sales volume**

There are private companies offering market databases. The choice of the comparative reference product is recommended to be agreed with the competent body.

- **Can the manufacturer test its own products?**

Yes, but only if the manufacturer's test laboratory meet the requirements indicated in the Section 1.1 of the protocol *'Framework for testing performance for hard surface cleaning'*. However, whenever possible, it is recommended that the performance test is carried out in a third party laboratory.

3.3.8 Criterion: Automatic dosing system

This criterion only applies to multi-component systems included in the IILD and IIDD product categories.

Criterion text:

For multi-component systems, the applicant shall ensure that the product is used with an automatic and controlled dosing system.

In order to ensure correct dosage in the automatic dosing systems, customer visits shall be performed at all premises using the product, at least once a year during the license period, and they shall include calibration of the dosing equipment. A third party can perform these customer visits.

Assessment and verification:

The applicant shall provide a signed declaration of compliance along with a description of the content of customer visits, who is responsible for them and their frequency.

Key points

- *How to prove that a product is used with an automatic and regularly serviced dosing system?* Section 3.3.8.1

Definitions

- ***Multi-component systems*** are included in the categories IILD and IIDD. For further information about their definition, please see the Section 1 Introduction of this user manual.

3.3.8.1 Guidance to prove that a product is used with an automatic and regularly serviced dosing system

In order to ensure that the correct dosage is used, the applicant, the applicant's representative or a third party shall visit all the premises where the applicant's product is used at least annually and perform a verification of the calibration of the dosing system. While all multi-component systems must be used with automatic dosing systems, the applicant is not required to provide and/or install such systems themselves. Their clients may use already installed systems or have some installed by a separate entity.

For the verification of this criterion, the applicant shall provide the competent body a signed declaration of compliance together with a description of what is verified during the visits, the name of the entity in charge of the visits and the frequency of those visits.

3.3.9 Criterion: User information

This criterion applies to all the product categories included in this manual.

Unified criterion text from the different Commission Decisions:

The product shall be accompanied by instructions for proper use so as to maximize product performance and minimize waste, and reduce water pollution and use of resources. These instructions shall be legible or include graphical representation or icons and include information on the following:

(a) Dosing instructions

LD, DD, HSC and HDD: The applicant shall take suitable steps to help consumers respect the recommended dosage, making available the dosing instructions and a convenient dosage system (e.g. 'dosing system', such as a cap can be present within the product, or that dosing instructions matching the dosing system should be available on the label to guide the user.).

Dosage instructions shall include different information depending on the product category:

- LD, HSC and HDD: Dosage instructions shall include information on the recommended dosage for at least two levels of soiling (for a standard load in the case of LD) and on the impact of the water hardness on the dosing, as well as indications of the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found.

- HSC and HDD: The information related to water hardness on the dosage shall be included only if applicable. In the case of HSC, the following text shall appear on the packaging of RTU products: "**This product is not intended for a large-scale cleaning**".

- IILD and IIDD: Dosage instructions shall include the dose in g or ml and/or second or alternative metric (e.g. caps, spray actuations) and the impact of the water hardness on the dose. This requirement does not apply for multi-component products to be dosed with an automatic dosing system. Indications of the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found shall be also provided.

- DD: Dosage instructions shall include information on the recommended dosage for a standard load.

(b) Packaging disposal information

The primary packaging shall include information on the reuse, recycling and correct disposal of packaging.

(c) Environmental information

A text shall appear on the primary packaging indicating the importance of using the correct dosage and the lowest recommended temperature, the later where such a recommendation is given (i.e. for instance not in the case of HDD), [in the case of LD, it shall not be higher than 30ºC] in order to minimise energy and water consumption and reduce water pollution.

IILD: If the final product contains peracetic acid and hydrogen peroxide as a bleaching agent and is classified and labelled, a text shall appear on the primary packaging or technical product sheet stating that the classification and labelling is due to peracetic acid and hydrogen peroxide which degrade into non-classified substances during the washing process.

Assessment and verification:

The applicant shall provide a signed declaration of compliance along with a sample of the product label.

ⓘ Key points

- *Summary of the information to be included for each of the product groups:* Section 3.3.9.1
- *Examples of the information appearing in the primary packaging on*
  - *dosage information:* Section 3.3.9.2
  - *packaging disposal:* Section 0
  - *environmental information:* Section 3.3.9.4
  - *other:* Section 3.3.9.5

3.3.9.1 Summary of the information to be included for each of the product groups

The primary packaging (for definition, see Section 3.3.6 on definitions) shall include the following information:

Table 24. Information to be included in the primary packaging

Requirement	Product group					
	LD	**DD**	**IILD**	**IIDD**	**HSC**	**HDD**
Dosage						
Dosage for the standard load	X	X				
Dosage in g or ml and/or second alternative metric (e.g. caps, spray actuations)			X (unless automatic dosage used)			
Dosage for 2 levels of soiling	X				X	X
Convenient dosage system	X	X			X	X
Info on local water hardness	X		X	X	X If applicable	X If applicable
Impact of water hardness on the dosage	X		X	X	X If applicable	X If applicable
Packaging disposal						
Information on the reuse[13], recycling and correct disposal	X	X	X	X	X	X
Environmental information						
Text indicating the importance of using the correct dosage and the lowest recommended temperature	X	X	X	X	X	X
Max recommended temperature	30ºC					
Other	**IILD:** if the final product contains paracetic acid and hydrogen					

[13] Information on the reuse is mandatory only if a refill is available.

	peroxide as a bleaching agent and is classified and labelled, a text shall appear on the primary packaging or technical product sheet stating that the classification and labelling is due to paracetic acid and hydrogen peroxide which degrade into non-classified substances during the washing process **HSC** (RTU products)**:** "this product is not intended for a large scale cleaning"

A sample of the product label or the technical sheet shall be provided to the Competent Body in charge of the application.

3.3.9.2 Examples of information that may be provided on dosage

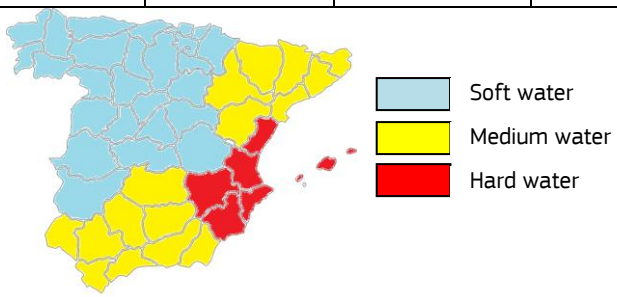
Table 25. Examples of dosing instructions

<table>
<tr><td>LD</td><td>

Example 1. Laundry product marketed in Spain

Dosing for 4,5 kg of laundry (1 cap = 70 ml)

	Soil: light	Soil: medium	Soil: heavy
Soft water	30 ml	50 ml	60 ml
Medium water	50 ml	60 ml	70 ml
Hard water	60 ml	70 ml	90 ml



Machine washing: pour the correct recommended dose into the washing machine
Hand washing: dilute 30 ml of detergent in 5L of water

</td></tr>
<tr><td>HDD</td><td>

Dosing for 5L of water:
- Lightly soiled crockery: 2,5 ml (1/2 teaspoon)
- Normally soiled crockery: 5 ml (1 teaspoon)

Immerse the crockery in water, where the correct recommended dose of detergent has been dissolved. Avoid leaving the water running.

</td></tr>
</table>

3.3.9.3 Examples of information that may be provided on packaging disposal

Table 26. Examples of packaging disposal information

All product categories	Phrases promoting the reuse, recycling and correct disposal of the packaging may be used, for example: - Reusable bottle[14] - Packaging 100% recyclable - After use, dispose of the empty packaging in the [plastic] recycling bin

3.3.9.4 Examples of information that may be provided on environmental aspects

Table 27. Examples of environmental information

LD	This product is suitable for washing at low temperatures [30ºC or below]. Use low temperature programs, the recommended dose and the maximum load possible in order to reduce the energy and water consumption, minimizing this way the impact on the environment.
HDD	This product is suitable for washing at low temperatures [e.g. 20ºC, room temperature, cold water]. Use cold water, the proper recommended dose and immerse the crockery into the water rather than leaving the water running, in order to reduce the energy and water consumption, minimizing this way the impact on the environment.

In the case of LD, the lowest recommended temperature shall not be higher than 30ºC.

3.3.9.5 Examples of the information on other aspects

In the case of IILD, if the final product contains peracetic acid and hydrogen peroxide as a bleaching agent and is classified and labelled, a text shall appear on the primary packaging or technical product sheet stating that the classification and labelling is due to peracetic acid and hydrogen peroxide which degrade into non-classified substances during the washing process.

Table 28. Example of information on classified IILD product

IILD	This product is classified and labelled because of the presence of peracetic acid and/or hydrogen peroxide in the formulation, which are degraded into non-classified substances during the washing process.

[14] This information is mandatory only if a refill is available.

3.3.10 Criterion: Information appearing on the EU Ecolabel

This criterion applies to all product categories included in this user manual.

Unified criterion text from the different Commission Decisions:

The logo shall be visible and legible. The EU Ecolabel registration/licence number shall appear on the product and it shall be legible and clearly visible.
The applicant may choose to include an optional text box on the label that contains the following text:

- Limited impact on the aquatic environment (**all product categories**);
- Restricted amount of hazardous substances (**all product categories**);
- Tested for cleaning performance (**DD, IIDD, HSC and HDD**).
- Tested for wash performance (**IILD**).
- Tested for wash performance at 30ºC (**LD**)*****.

***** if the LD product was tested at 15 or 20°C in Criterion *'Fitness for use'*, the applicant may change the temperature indicated accordingly.

Assessment and verification: the applicant shall provide a signed declaration of compliance along with a sample of the product label or artwork of the packaging where the EU Ecolabel is placed.

ⓘ Key points

- *Guidelines for use of the Ecolabel logo.* Section 3.3.10.1

3.3.10.1 Guidance for use of the EU Ecolabel logo

The guidelines for the use of the EU Ecolabel logo and the optional logo with text box can be found in the "Guidelines for use of the Ecolabel logo" on the website:

http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf

4 Annexes

4.1 Annex I. Application form – separate document

4.2 Annex II. Declarations – separate document

4.3 Annex III. Check-list – separate document

4.4 Annex IV Derogation form – separate document